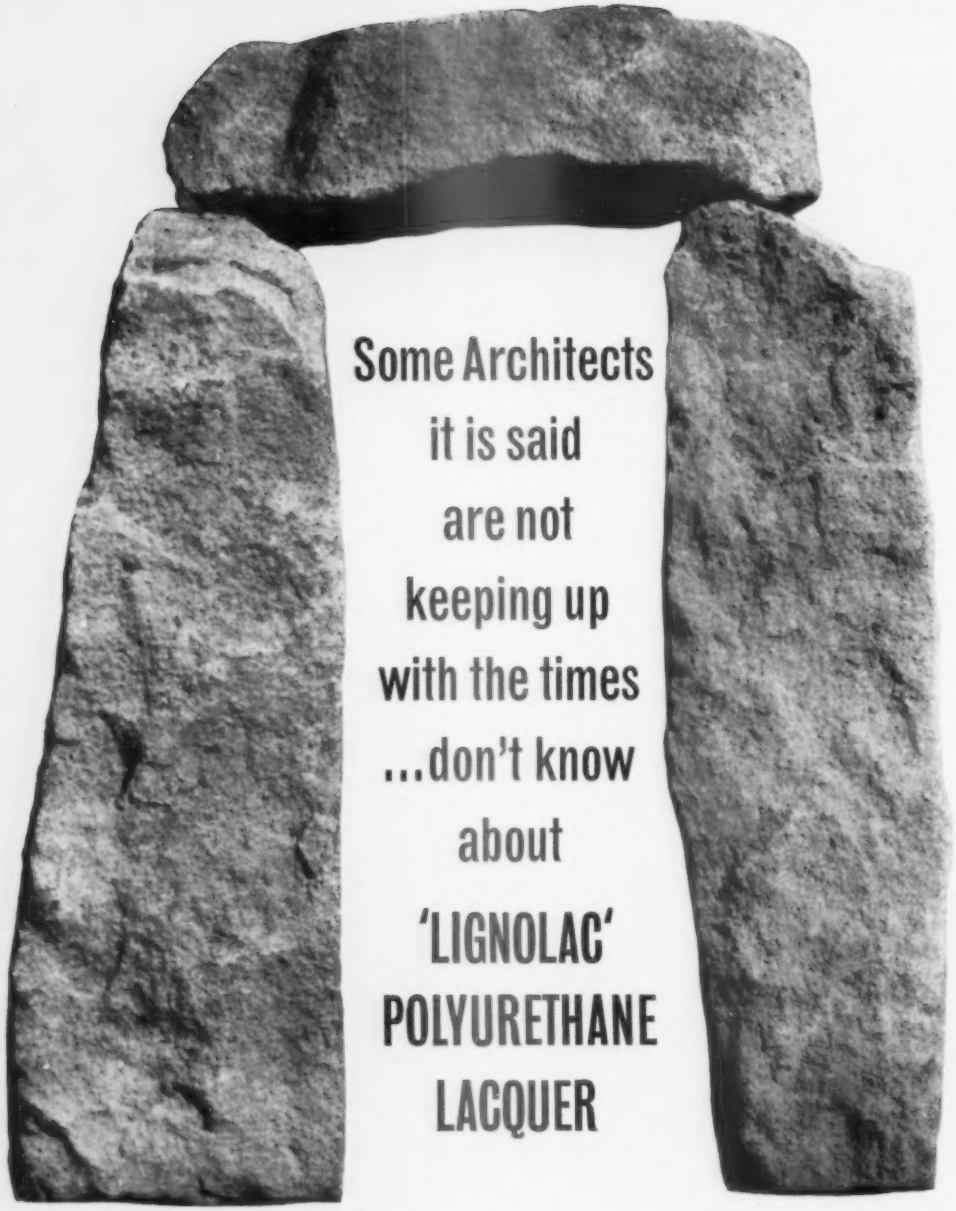
THE ARCHITECT & BUILDING NEWS

9 MARCH 1960 VOL. 217 NO. 10 ONE SHILLING WEEKLY

- **BIG TREES FOR BUILDINGS**
- **CASTROL HOUSE, ST. MARYLEBONE**
- **CURRENT MEASURED RATES**

PUBLISHED IN LONDON SINCE 1854



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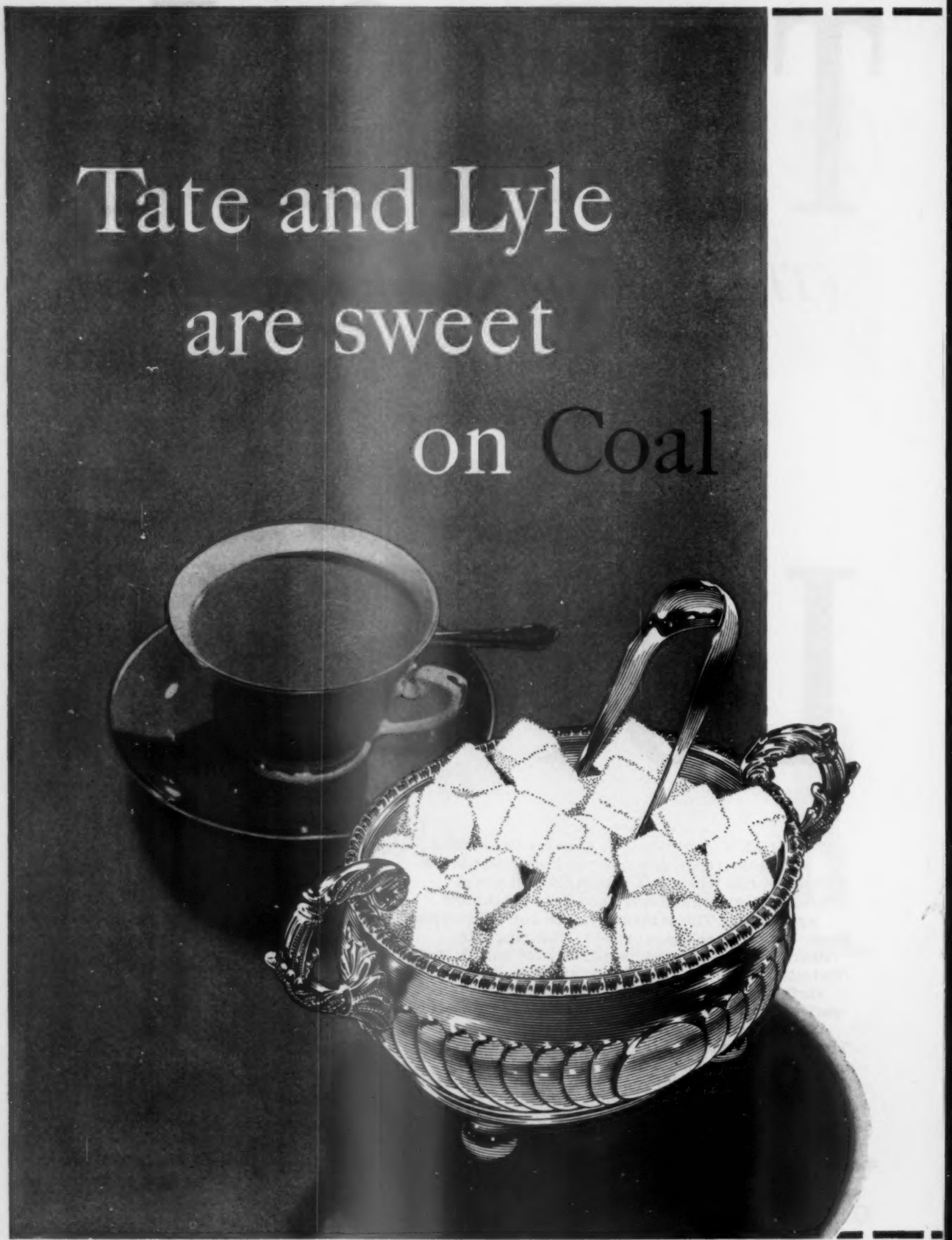
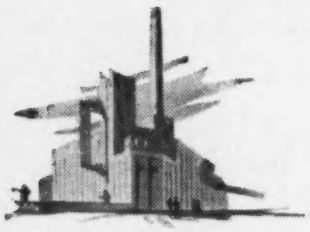

Tate and Lyle
are sweet
on Coal



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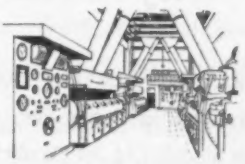

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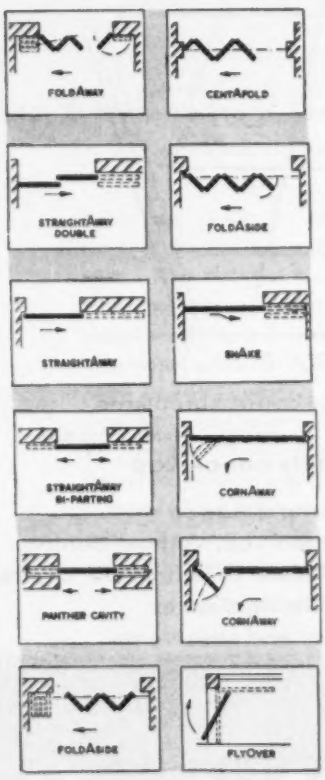

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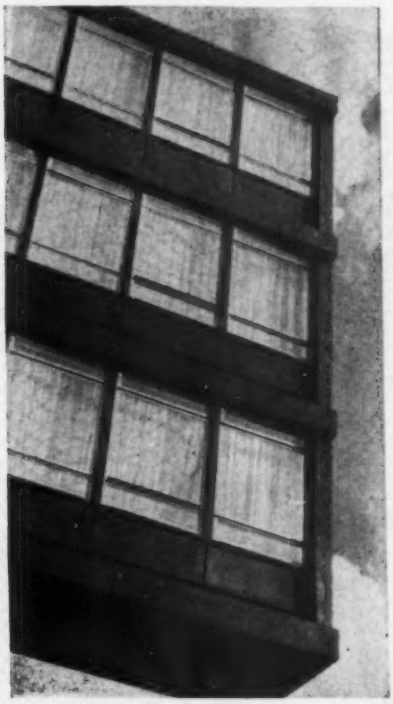
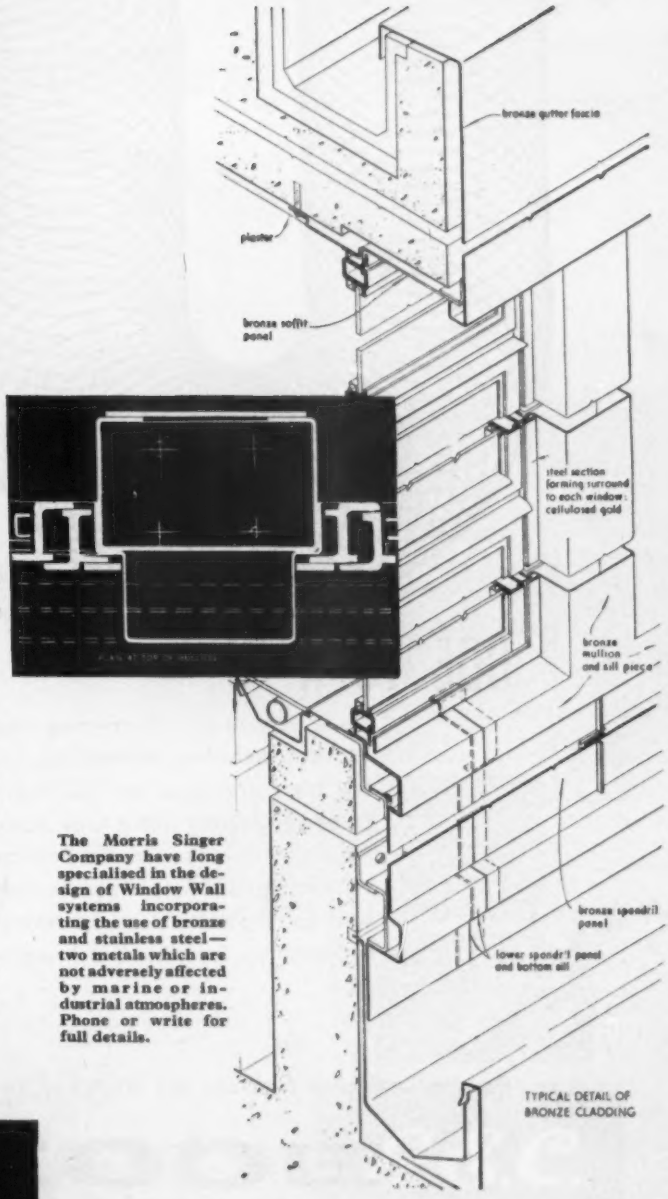


BRONZE CLADDING


bronze gutter fascia
plaster
bronze soffit panel
steel section forming surround to each window: cellulosed gold
bronze mullion and sill piece
bronze spandril panel
lower spandr'l panel and bottom sill

TYPICAL DETAIL OF BRONZE CLADDING

Peter Robinson's Store, Strand London

Architects: Denys Lasdun & Partners

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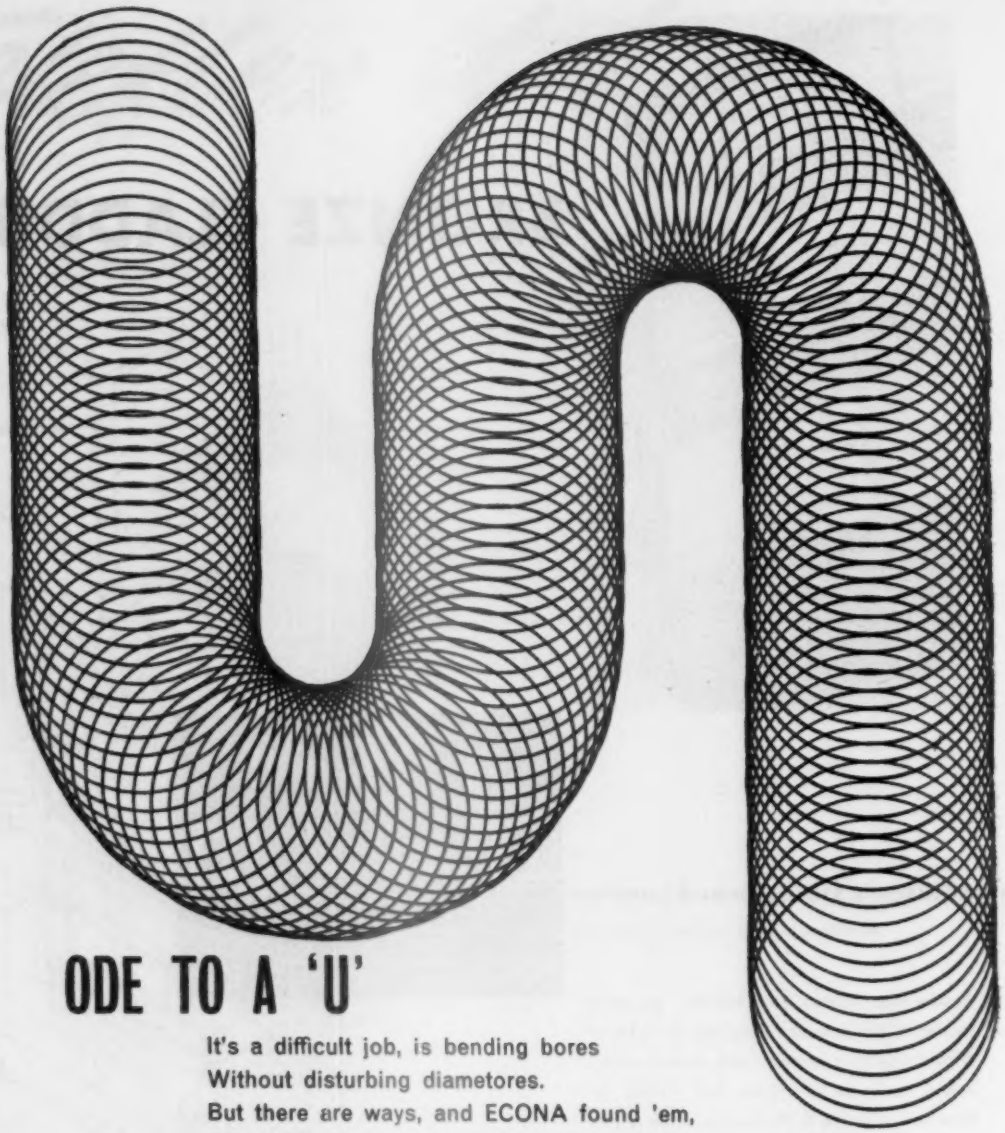

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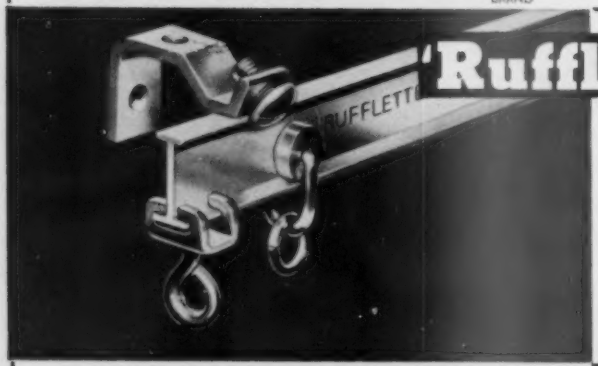

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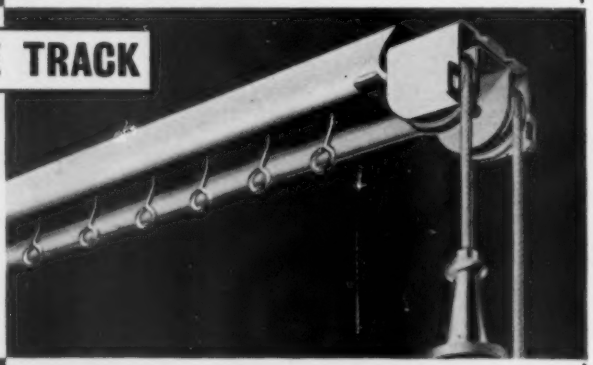

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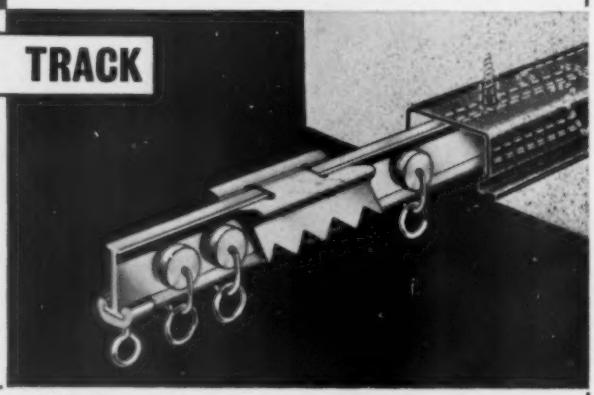

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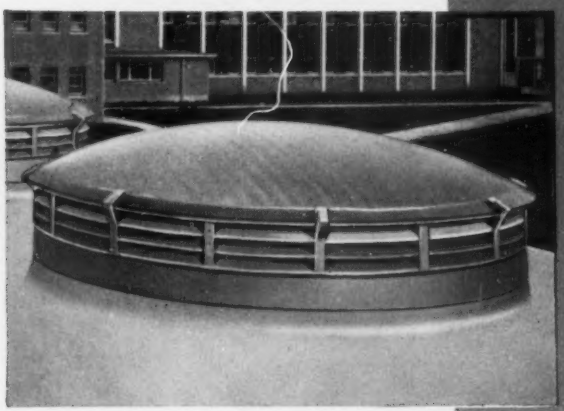

Circular Dome ventilators are supplied from 18" diameter to 72" diameter. This is one of a number of units installed at the Gormanstown Franciscan College, Co. Meath. (*Architect: John C. Thompson B. Arch., A.R.I.B.A.*)

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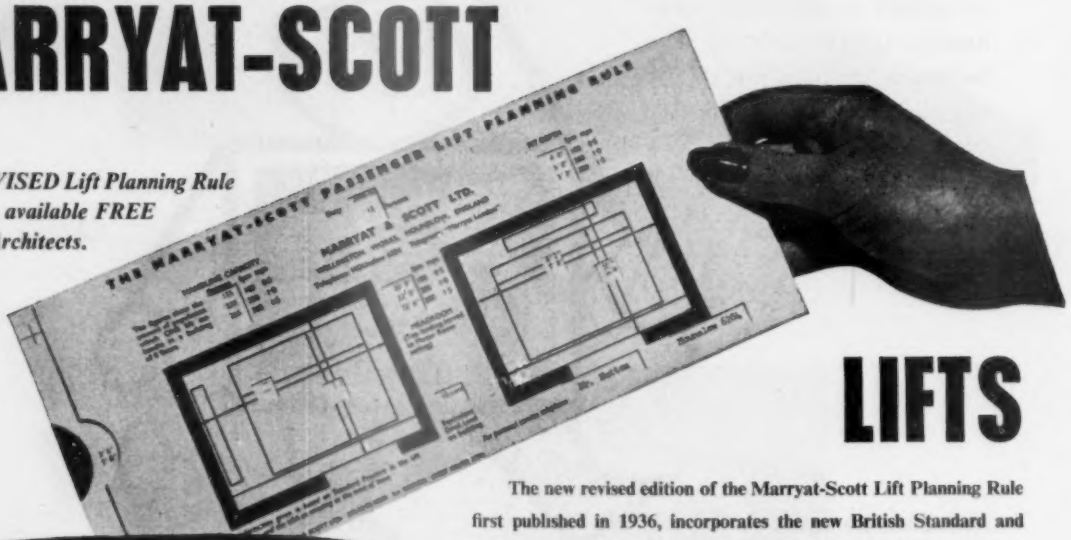

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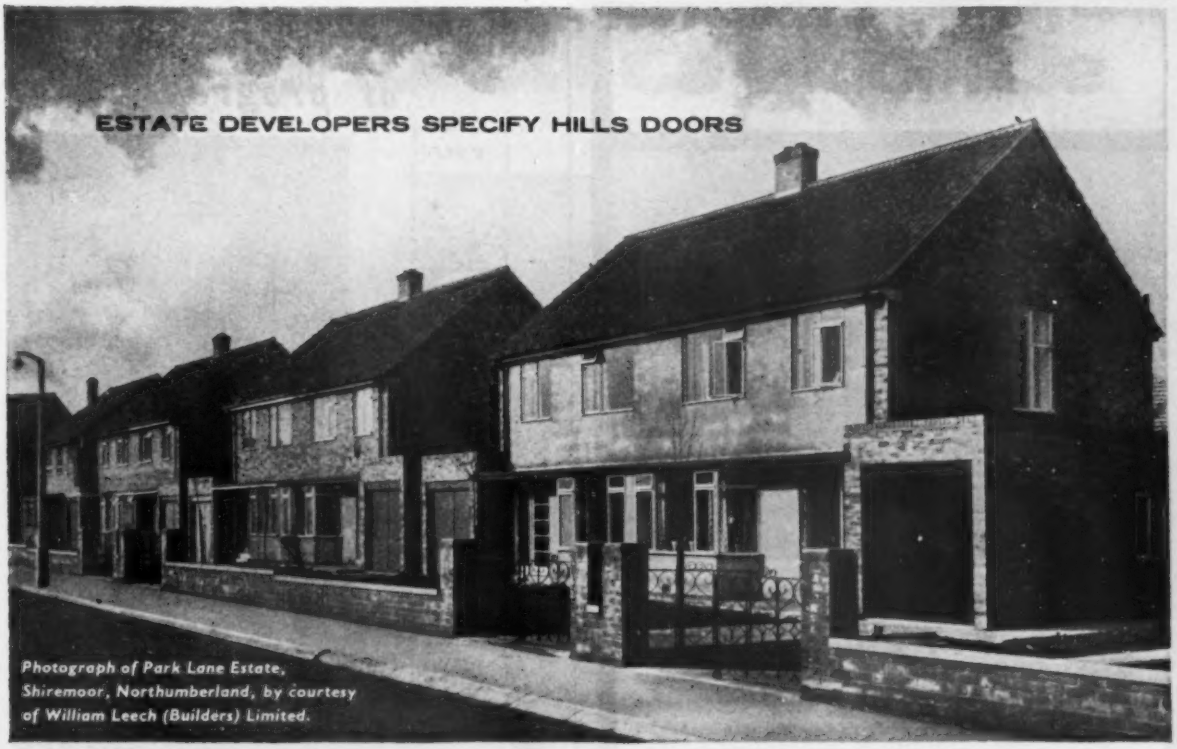

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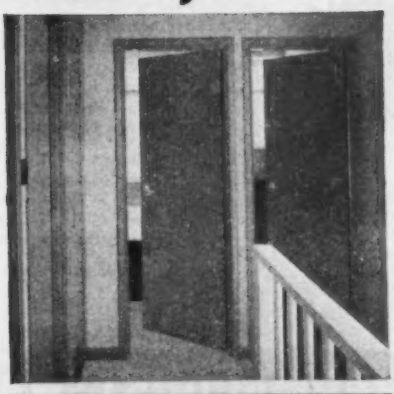

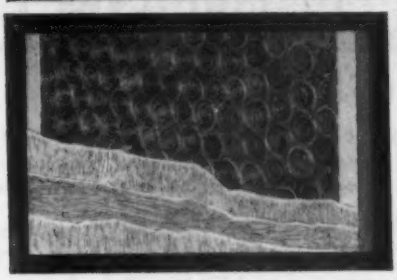

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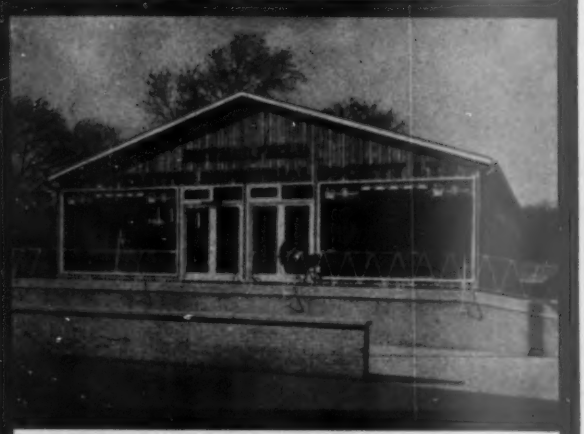

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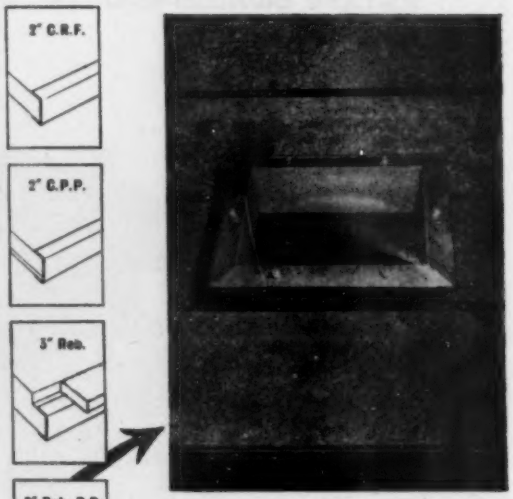

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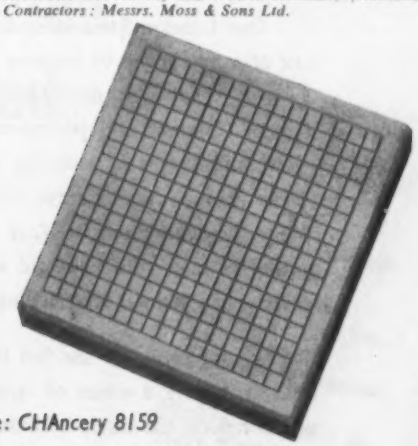
Architects: H. V. Ashley and Winton Newman, F/F.R.I.B.A. Contractors: Messrs. Moss & Sons Ltd.



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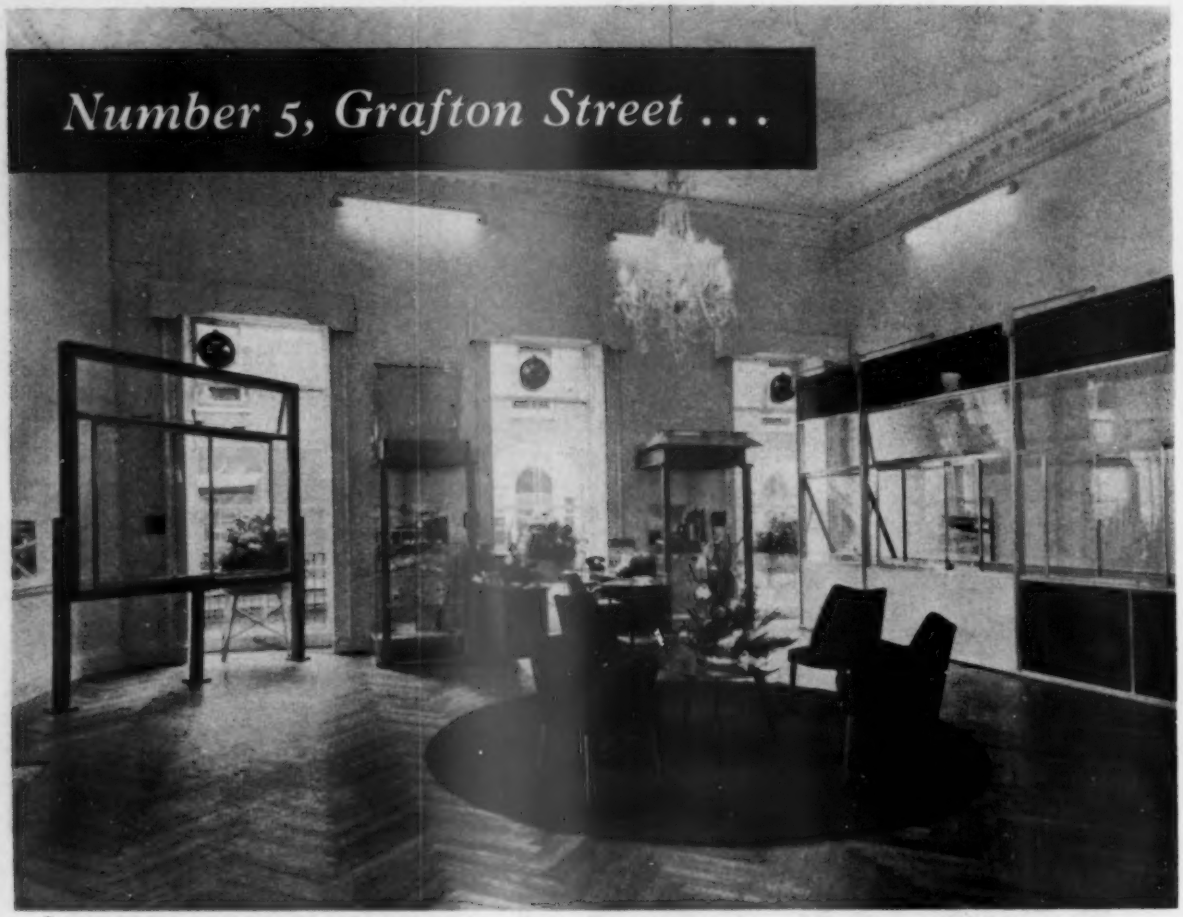

Our London Sales Office and Showrooms are now at No. 5 Grafton Street, W.1, one of a fine group of terraced houses built around 1750 and designed by Sir Robert Taylor. They are distinguished by uncommonly massive stone doorcases with Tuscan Columns and pediments and widely-spaced windows. Access to the Showroom, situated as it is on the first floor, is by way of an elegantly curved staircase rising through two storeys with fine wrought-iron balustrade in an "S" pattern. While the Showroom itself, is one of the finest drawing rooms in London and the setting of many distinguished social gatherings of the 18th Century. It has a truly interesting Adam stucco ceiling of unusual detail and an Adam mantelpiece.

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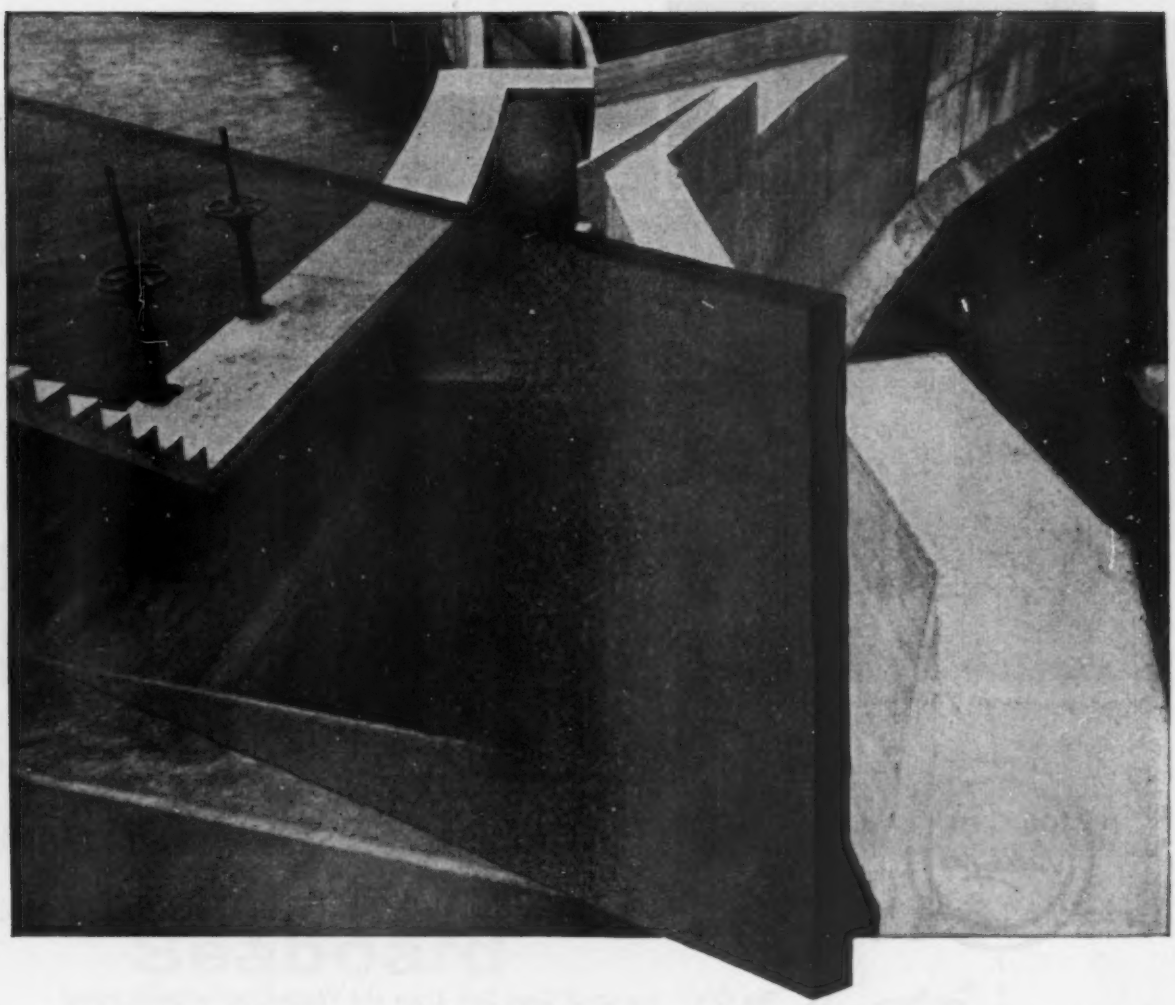

The constructional problems encountered in building this reservoir are similar to those found in a wide variety of water-retaining structures. It is imperative that joints between supporting columns and the floors are resistant to seepage and yet allow for any expansion or contraction between them.

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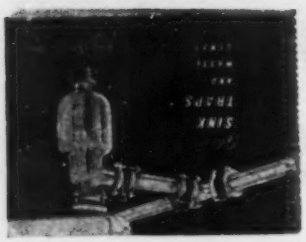

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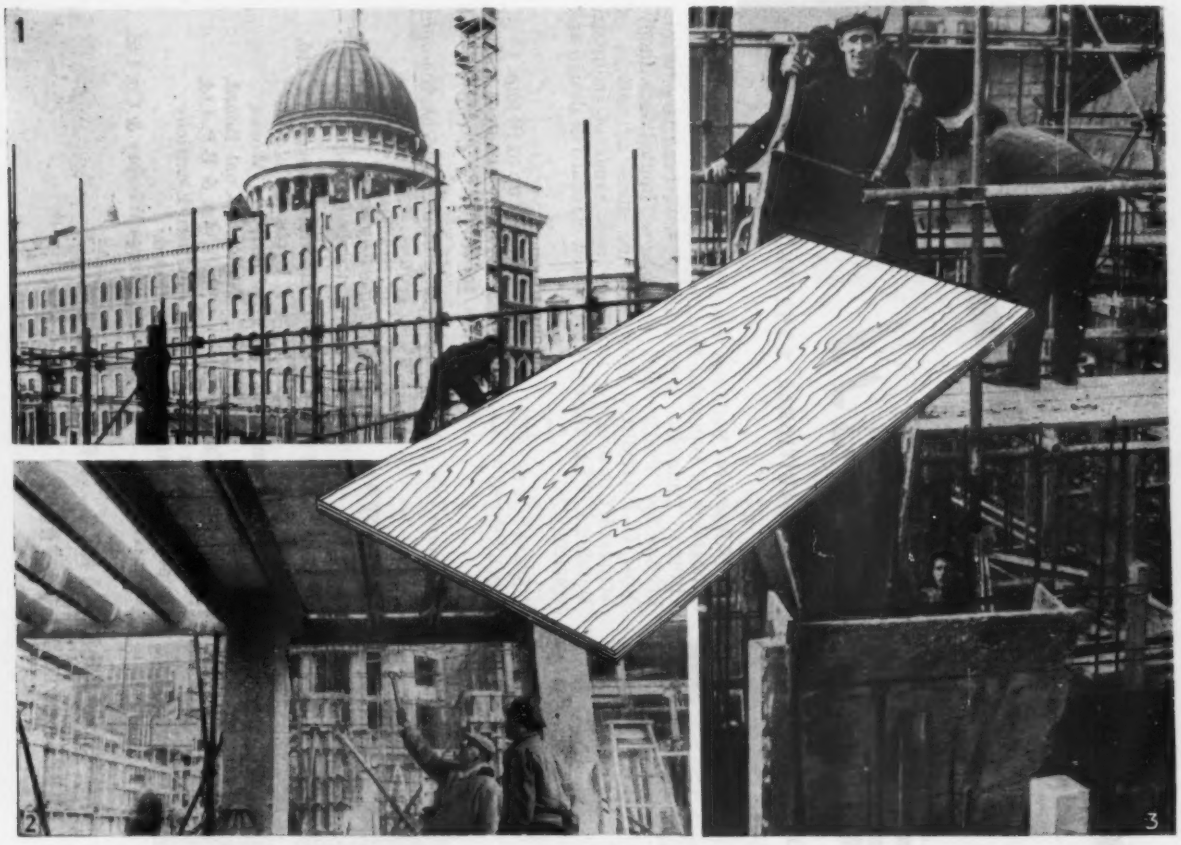

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Shown above are excellent examples of how Seaboard fir plywood saves time and reduces cost. Picture (1) shows general shot of building site with all concrete shown being poured in fir plywood forms. Picture (2) shows plywood used as shuttering for pouring slab floors.

Picture (3) shows fir plywood shute used for pouring the concrete in the same building. Strong, tough and split-proof—yet light and easily handled—Seaboard fir plywood is proving eminently suitable for re-usable formwork. Investigate today!

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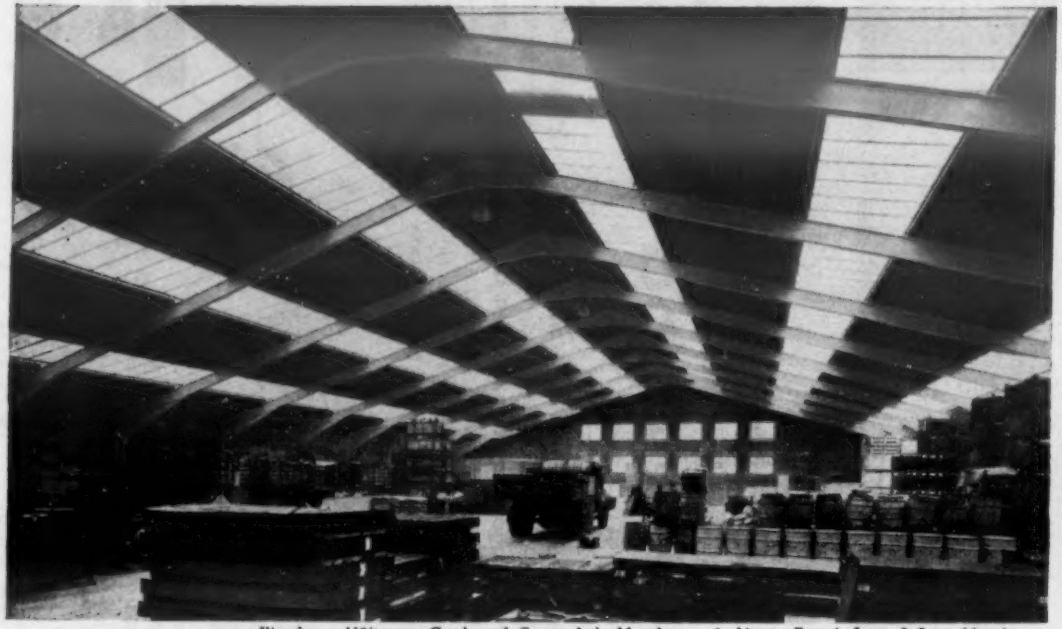

Warehouse 110ft span. Gresham & Craven Ltd., Manchester. Architects: Francis Jones & Sons, Manchester.

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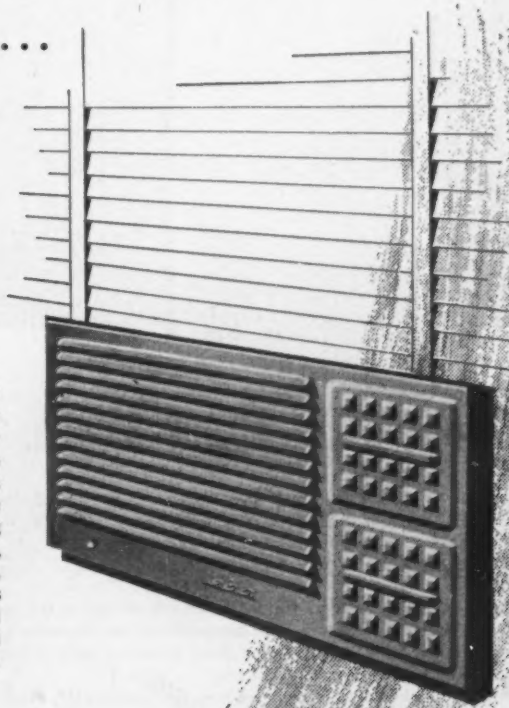

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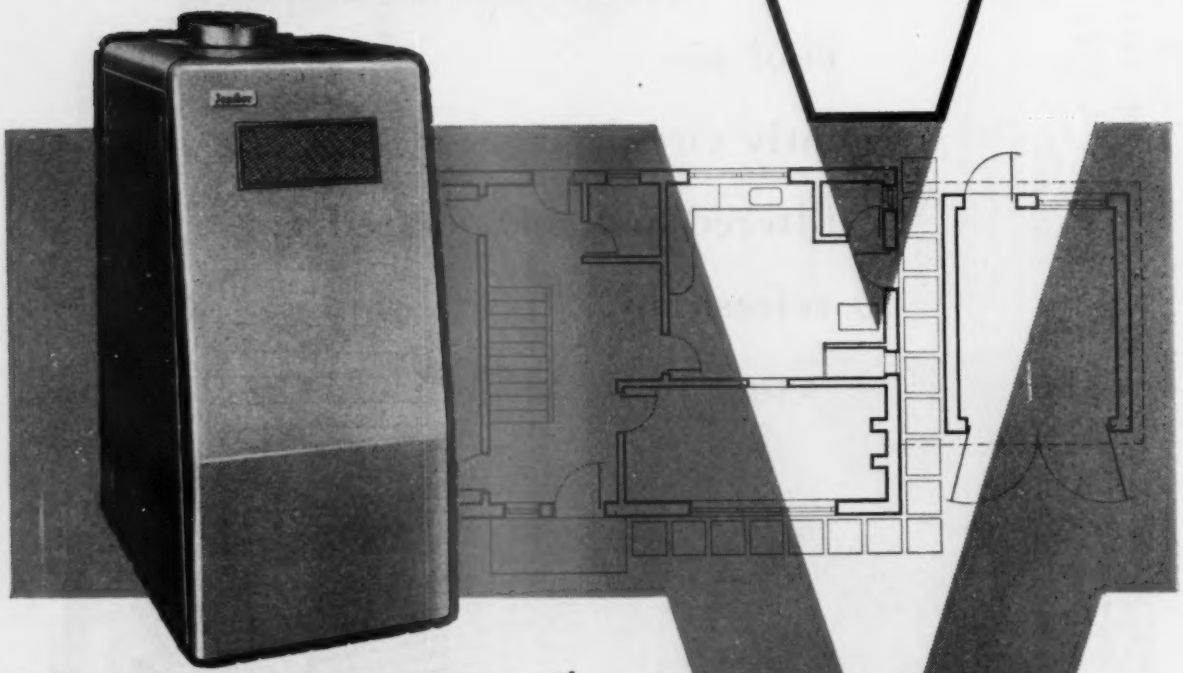

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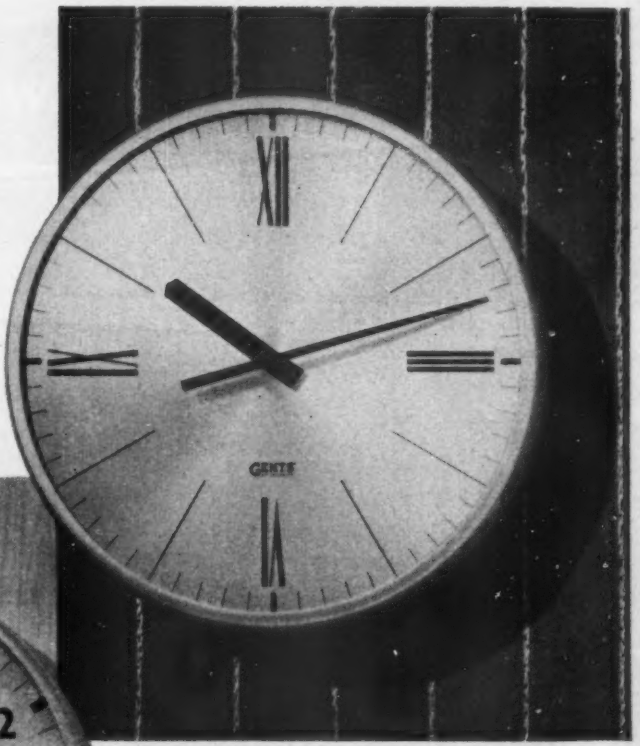

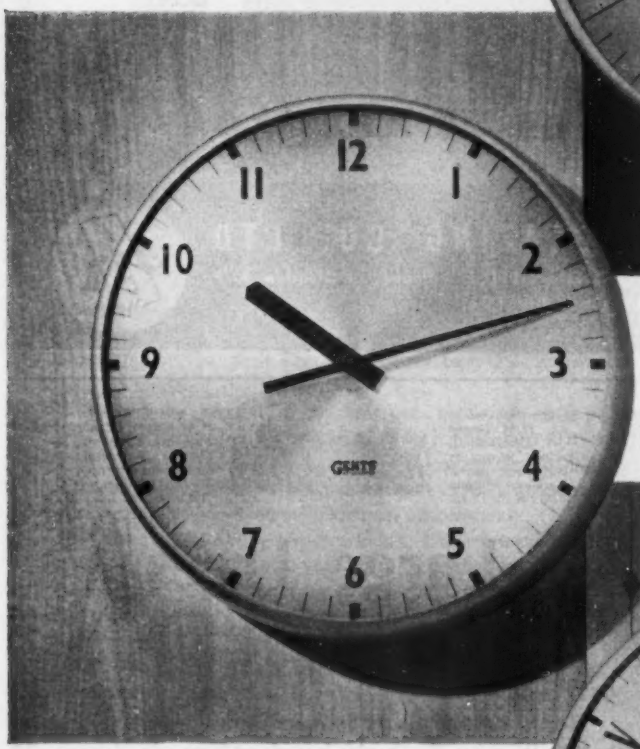

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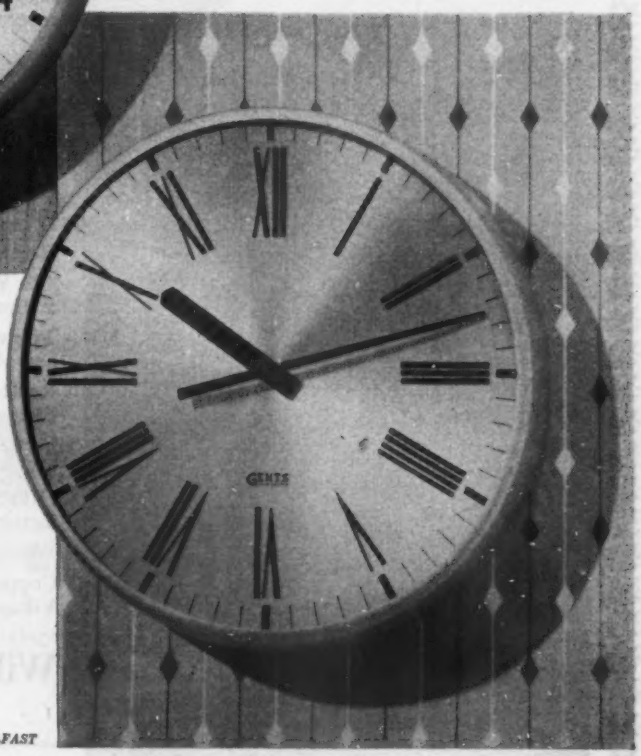

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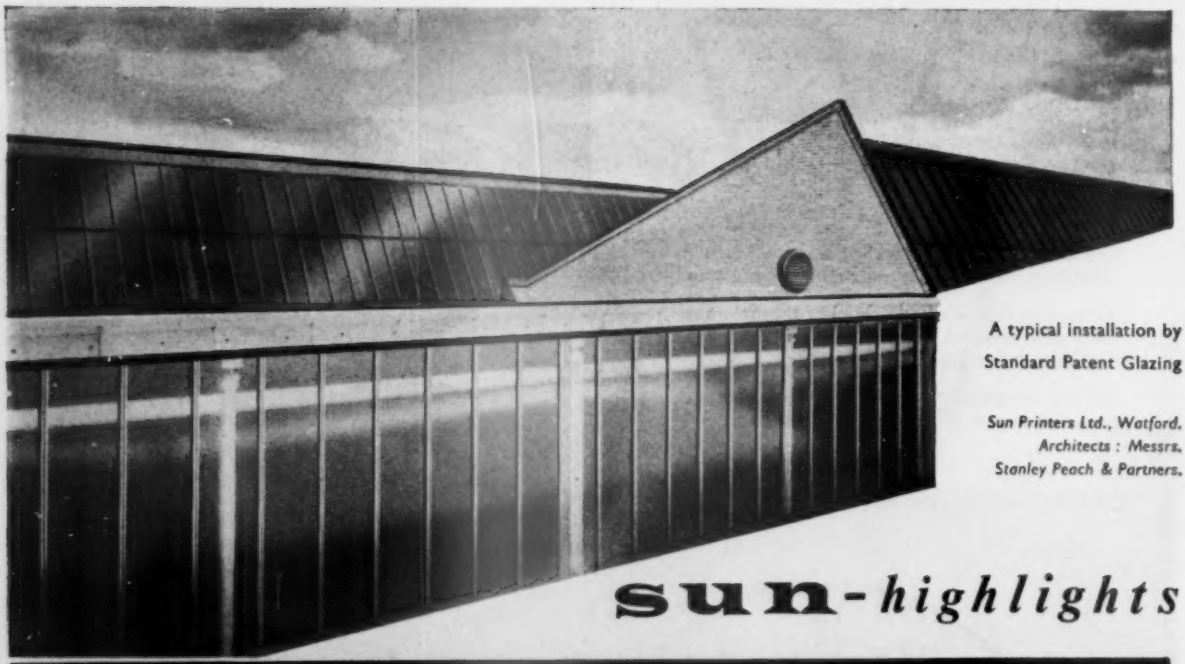

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Architects : Messrs.
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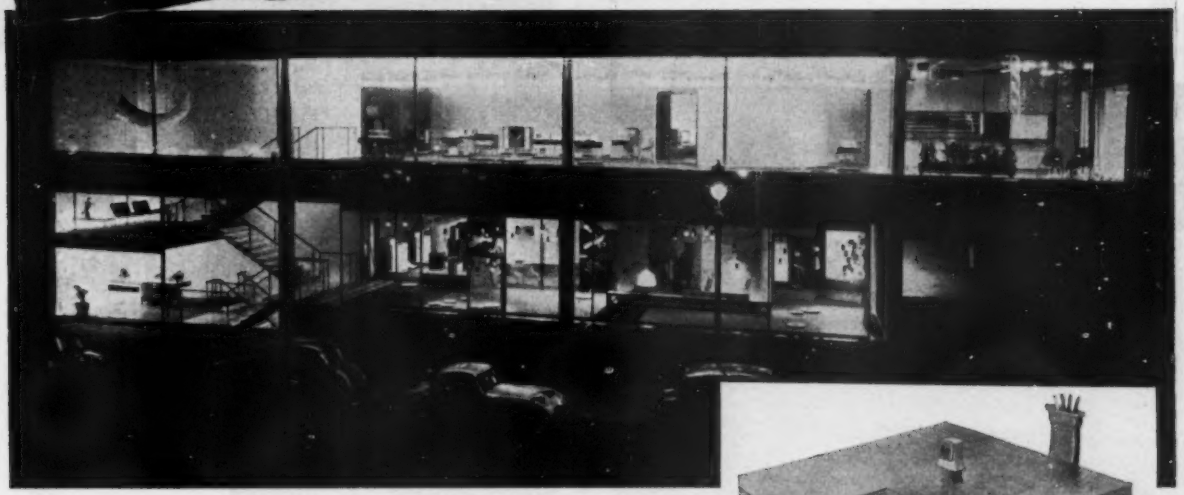

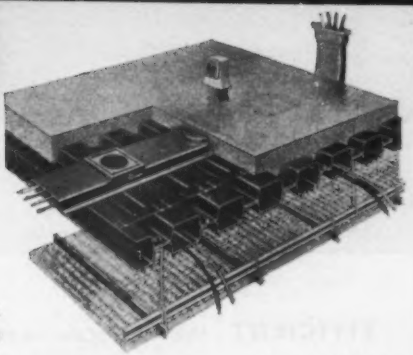

Thorn House, the new headquarters of Thorn Electrical Industries Limited, is further evidence of the growing realisation by engineers everywhere of the advantages which Robertson Q-Floor construction has to offer.

Q-Floor was selected for the showroom block because it provides a vast built-in network of ducts for electrical wiring at a cost little more than the floor slab itself. No other integral floor wiring system can compare with the unlimited electrical availability provided by Q-Floor nor with the built-in guarantee it provides against electrical obsolescence.

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Architects for Showroom:
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Structural Engineers:
Ove Arup & Partners

Consulting Engineers:
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Main Contractor:
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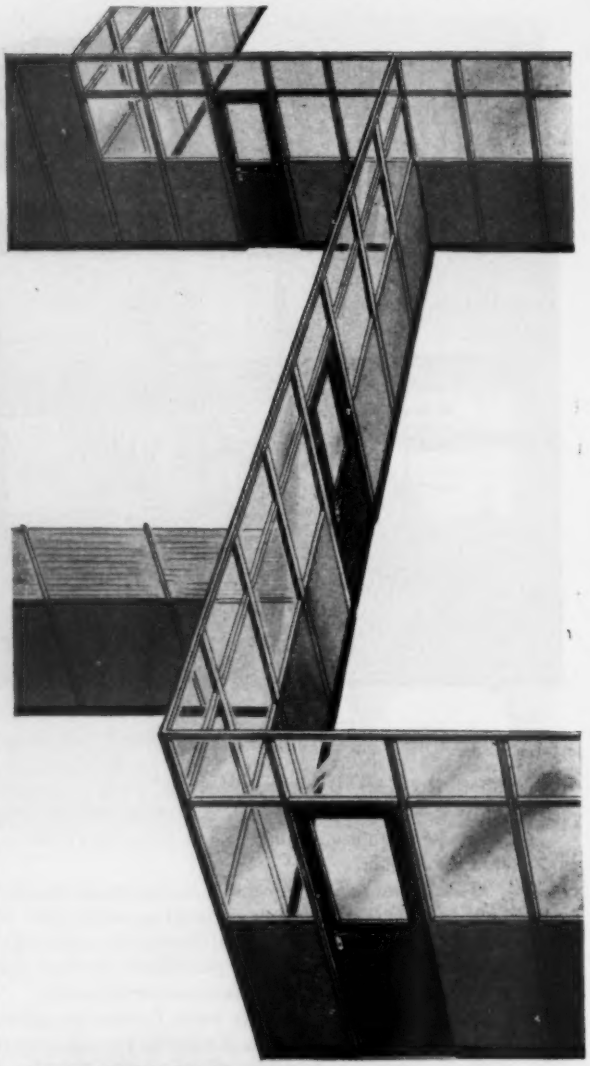

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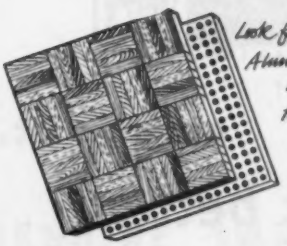
ALUFLOOR CAN BE PRODUCED FROM ANY HARDWOOD TO ARCHITECT'S SPECIFICATIONS *British Patent No. 746791*



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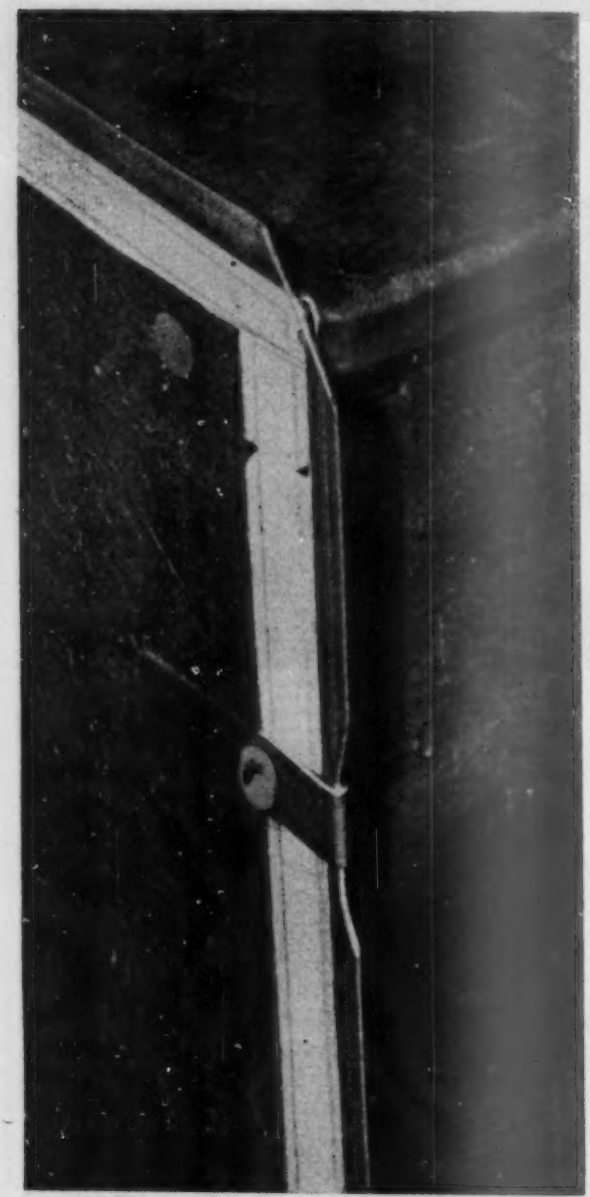

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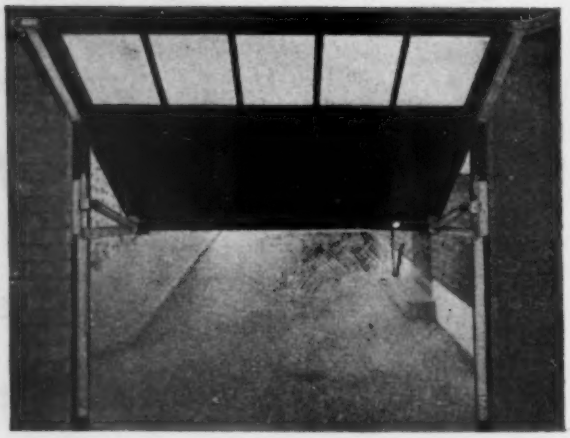

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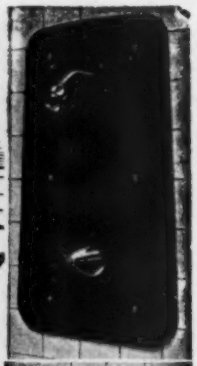

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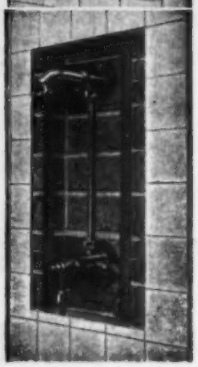

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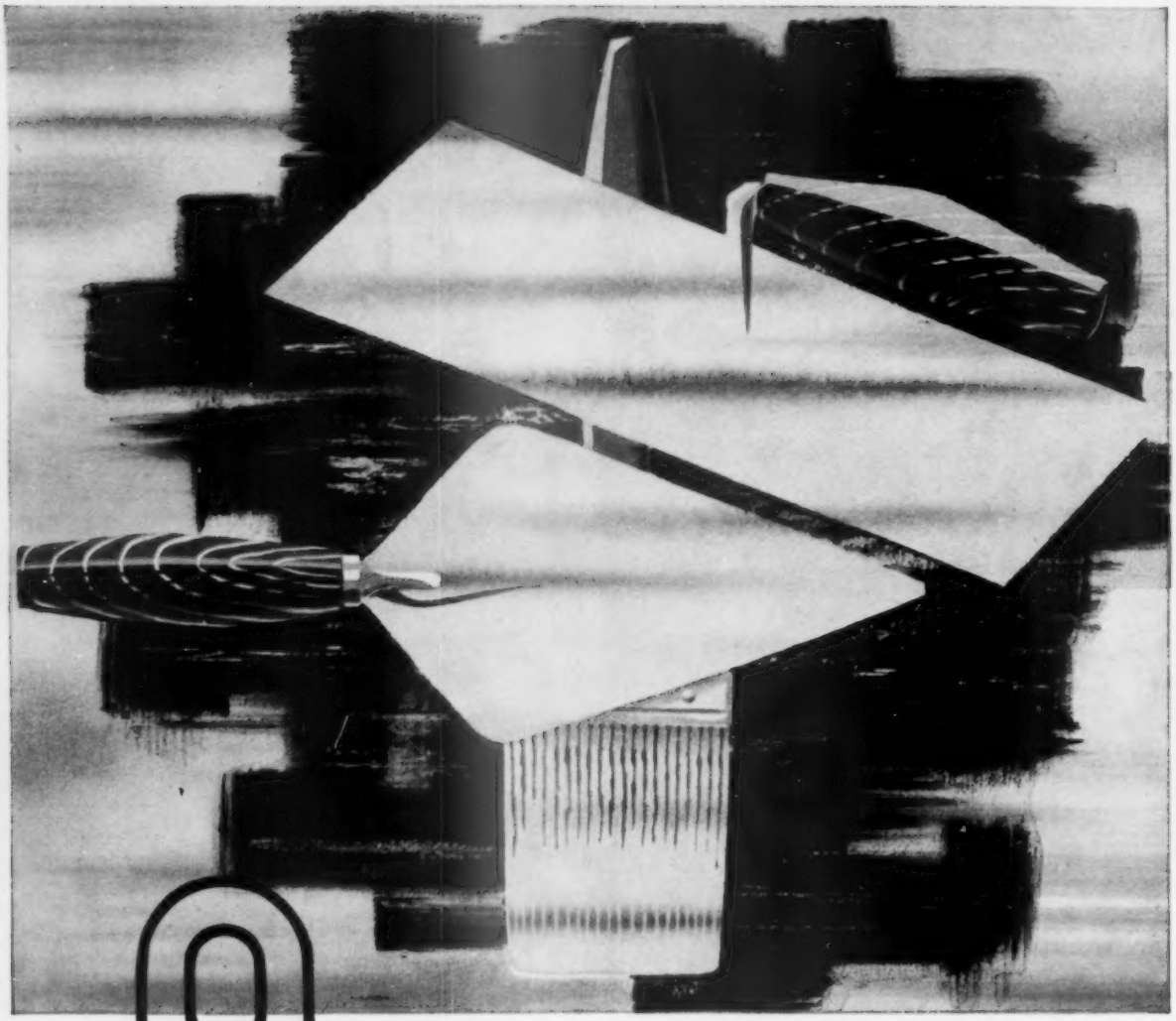

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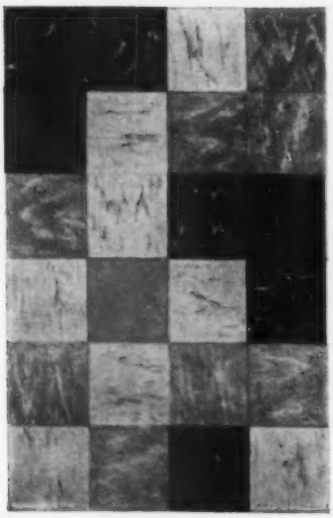

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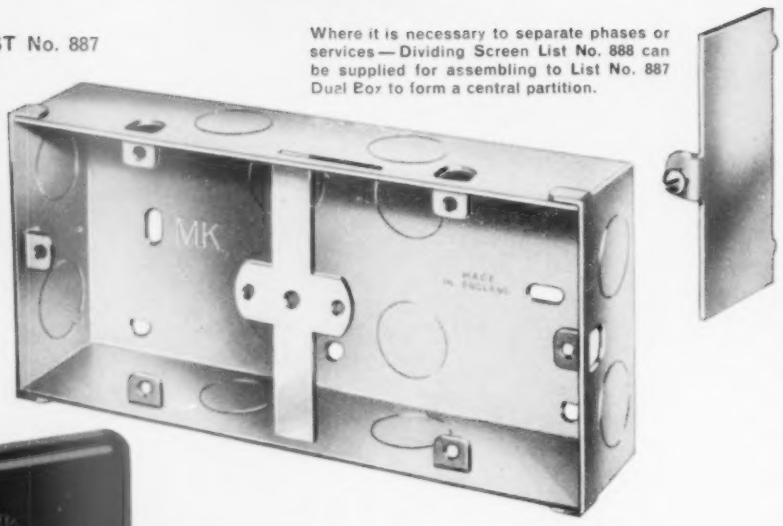

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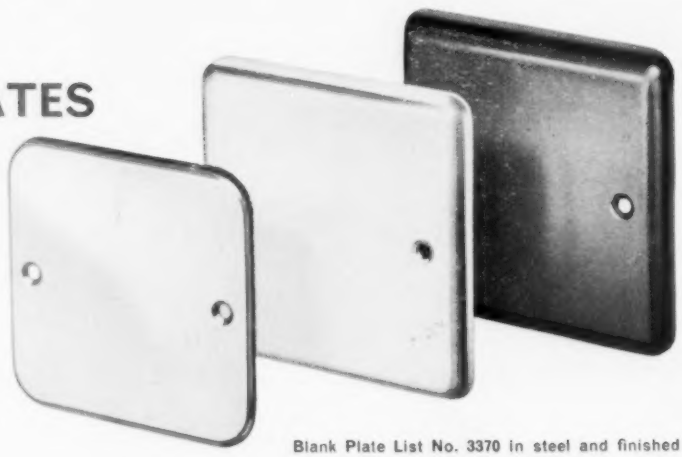

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Vol. 217 No. 10

THE ARCHITECT & BUILDING NEWS

9 March 1960

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LANDSCAPE DESIGN

THE special article which we publish in this issue on the use of large trees in landscape work focuses attention on one aspect of the very serious problem of landscape design in this country.

Compared with the United States, Switzerland, Germany, or the Scandinavian countries, landscaping in this country hardly exists as a profession. To say this is not in any way to decry the devoted work of the few active whole-time members of the profession, who are working desperately to improve the situation. It is simply to face the facts.

As Frank Clark pointed out in his presidential address* last November, there will shortly be no full-time university graduate course for landscape architects in this country. Reading is closing down and although there are encouraging developments at Edinburgh, the educational position is desperate.

It is doubtful if there are more than a few dozen landscape architects actually in whole-time employment as such and the prospects for new entrants is bleak. Not only are they bound to have great difficulty in learning sufficient to pass the very exacting examination requirements of the Institute of Landscape Architects, but even if they manage to qualify, their prospects of immediate employment are slight.

The situation is Gilbertian. On the one hand the need for landscape design, even with many of the new towns nearing completion, is nowhere near being satisfied. Very few of our new schools, housing estates and major buildings are being properly landscaped to the standard of more enlightened countries. Few new parks are being designed or old ones fitted to modern conditions. Many of the existing parks are being spoilt or neglected and the position of urban planting, generally under the baleful eyes of a borough engineers' tree loppers, is precarious in the extreme.

It is impossible up and down the length of the country, to show visitors work comparable to the great landscaped parkways of America or Stockholm, the fine new open-air baths of Switzerland or the host of brilliant schemes in Germany or Denmark. Even smaller work of good quality is very difficult to find.

The landscape profession simply cannot, unaided, pull itself up by its shoestrings. If we want good work we must, as architects and citizens, be prepared to fight for it. We must persuade our clients that it is worth paying for an adequate setting for their buildings and we must badger parks authorities until they begin to commission new work equal to the great days of the past.

* Institute of Landscape Architecture.

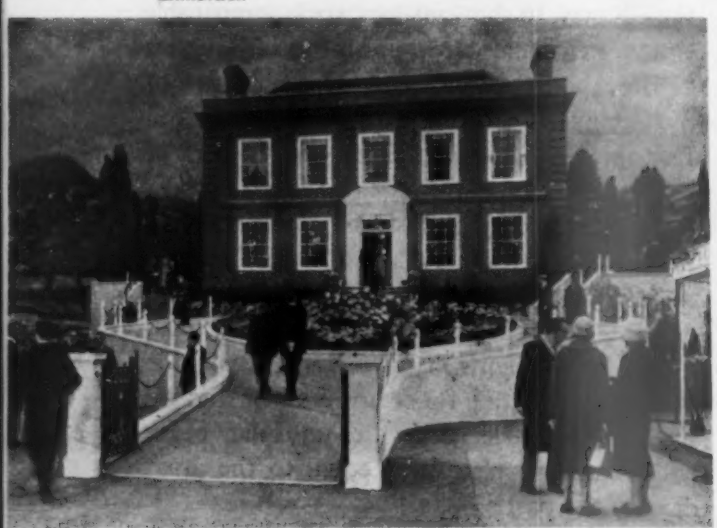
EVENTS AND COMMENTS

YOUR IDEAL HOME?

With the unerring skill born of many years of experience, the *Daily Mail* chose the first real day of spring for the press and private view of the Ideal Home Exhibition at Olympia. The weather outside matched the spring lighting inside and was almost as warm. Once again, all the spare girls old enough to use a lipstick in Greater London have been mobilized to demonstrate the latest thing in gadgets to the gawping, gormless millions who will, during the next 26 days, pack Olympia to sweltering point. Hitherto, each year has seen a bigger, grander, and more resplendent exhibition, until it seemed that the free shows were occupying almost as much space as the paying ones. We've had medieval castles and full-sized knights on horseback, chunks of Versailles—or was it Fontainebleau?—stuffed with National Trust Treasures, we've had piles of gold bars and the complete British exhibit from the Brussels Exhibition, and, as a result, we've learned to expect an increasing marvel each year. The podgy, ignorantly-designed Georgian villa sitting above its preposterously steep and flower-show-planted drive is virtually all there is to wonder at this year. The shell stands are based on a wrought-iron motif and are at least better than those which held up a Georgian façade—was it last year? The green carpet has surely been used before. We are used to a new one each year. In the Grand Hall only the great vault of pale blue muslin remains to impress us. Can it be that the Ideal Home Exhibition is not what it was?

Among the well-known furnishing firms which have exhibits at the bottom of the main avenue, Dunn's, of Bromley, stands out as the only well-conceived, modern scheme, but the carpet, a blurred pink affair, is unforgivable. Next, Maples have produced an immensely bright and gay room which would do excellently for a set in a French bedroom farce. A lot of fun could be had with the white fur-covered arm-chair. The rest are nowhere, and since they include Heals and Peter Jones this is surprising. Heals, whose site is no more awkward than Maples, have crowded a lot of good stuff into an impossible muddle and have then put an enormous copper free-standing chimney hood over a portable forge to finish the whole thing off. Peter Jones have made their vast, two-sided fireplace permanent, so that it takes up even more room. Covering it with bubbling, pink metal foil has not made it seem any smaller. Once again, the room is cluttered up to the eyeballs. It seems to me that either you make a furnished room as Geoffrey Dunn and Maples have done or you make an exhibition stand showing half your stock. You cannot compromise. This series is called "a room with a view"—phew!

The Georgian House with its formal drive in and laid-out gardens, the centrepiece of the "Daily Mail" Ideal Home Exhibition



BIGGER AND MORE COMPLICATED

Of the new things in domestic contraptions it is not possible to write here, but the trend towards bigger and more complicated cookers, washers, washing machines, driers, refrigerators, mixers, grinders, deep freezers and sinks will soon make the kitchen the largest room in the house. My feeling is that no one, even with the aid of H.P., could possibly afford the whole lot, so, perhaps, the need for planning reform is not all that pressing. The next big change pending in the manufacture of household appliances would appear to be the use of stainless steel in place of vitreous enamel. I imagine that the price alone is preventing the change-over now. It would be silly to suggest that stainless steel is necessarily a better material but, judging by American magazines and the American house at the exhibition, it will soon be the O.K. material here. Anyone who has tried to keep an S.S. sink looking bright and clean will know that there are easier things to do. Stainless steel appliances look even more clinical than white enamel. If you want your kitchen to look like the sterilizing room at a hospital you are certainly welcome to it.

SHOW HOUSES—BEST YET

There is no doubt that the show houses are the best yet seen at this exhibition. It might be said that they would not have to be very good to qualify for that compliment. Except for some rather foolish flights of architectural fancy they are nevertheless all presentable. One house has an enormous, but enormous, staircase window which occupies a large proportion of the front elevation, framing a not-too-generous staircase like the procenium at a theatre for everyone in the street to see what time the Joneses, beg pardon, the Browns, come down to breakfast. Another brand of house insists on using a great, rugged, battered stone external chimney year after year until it has become a kind of trade mark. The Canadian timber house has three glass walls to its living room, which is on the first floor. Not too easy to furnish or keep warm, especially with the rafters showing. The American house, said to be a typical middle-income family home, was designed by a special sub-committee of the National Association of House Builders, the organization which runs the National Housing Centre in Washington. Externally it looks quite good, though it has a bad and congested site. If ten per cent of our spec houses looked half as good I should not complain. Internally, however, it seemed to me a bit of a mess. It has an open plan and is on one floor. By the time the necessary circulation areas are subtracted from the living part of the house there is precious little room left for anything. The kitchen is a fine old machine shop with a stainless

steel hot plate and grill at least 4ft sq and a separate oven; this, mind you, in a three-bedroom house. The planning of the living area is indeed extremely fussy, with two dining areas, a "family" room, and the kitchen as well as the main living room. By comparison, the bedrooms are well planned, though small. Cupboard doors slide beautifully, and the double bed is very much wider than it is long. Some of the floors are laid with that new pure vinyl stuff in fancy translucent colours. This, I hear, cost as much as £11 a yard here. The sanitary fittings are good, but Americans evidently have a passion for partially obscured plate glass doors on showers and baths. I would have thought that the sweat of keeping the glass clean would very much exceed the trouble of mopping up the splashes. Still, it looks awfully rich and it's what they do in films. The joke is that the only reason they do it in films is so that you shan't see too much of the girlies.

The décor was designed by the National Design Center of New York City. Give me the one in the Haymarket. The scheme is corny and terribly old-fashioned, and harks back to the log cabin and colonial Georgian. The girl's bedroom, believe it or not, is described as "French provincial". Every visitor, and they expect a million, will be asked to fill in a form answering a number of questions. The answers are yes! or no! One of them is, do you prefer one large or two smaller bathrooms, yes or no? Another, do you like the central heating system? the air conditioning system? Well, do you? One very sensible idea—the washing machine is in a tiled annexe between the bathrooms. Laundry is surely a function of the bathroom, not the kitchen. I believe we are the only European country which uses the kitchen or its purlieus. Taken all round, the house is an interesting exercise, reasonably familiar to anyone who reads the American papers—or goes to the cinema. An awful lot of rot will be written about it, but there is nothing about it that a decent architect could not do a good deal better here—given the money.

"FROUS-FROUS"

There is nothing much that is special about the furnishing of the other houses. At least one is done by a store, and well done, too. Most of the others are by, or for, women's papers and range from the banal to film star vulgar. A frilly bedroom for a girl taking the prize, and an almost equally revolting baby-bedroom coming as runner-up. I wondered if the flounced draperies were fireproofed, but reflected that the baby at any rate would be unlikely to smoke in bed. Nearly all w.c. lids have "frous-frous" on them now, and did you know that you can now have an electrically warmed seat. I did not see it at the exhibition but I feel sure it is there somewhere. Real butterflies in glass-fronted frames gave way some time ago to imitation ones, now I see imitation ones perching, as if alive, outside the frames. Almost without exception the houses are grossly overlit. These damnable all-over ceilings are to blame. Maybe they have a place in the car showroom or the operating theatre, but in the home, no. The result of this is that the room which I preferred of all those I saw was in the Pollard House, furnished by Homes and Gardens. Here the scheme was nothing much out of the ordinary, but the lighting was subdued, giving a decent balance of light and shade, and perfectly adequate illumination.

I nearly forgot the inside of that Georgian dolls house. It contains some lovely things from private collections, but I could not make out whether it was supposed to be today or yesterday. It was, in fact, society decorators rich high-class Georgian. The kitchen really was a lark, all riveted copper and natural wood with cooking utensils hanging on the chandelier. Yes, I have just remembered, that inflammable bedroom was here.

As for the rest of the show; the mixture as before, except that I suddenly came face to face with three beauty queens in the shortest, tightest swim suits. It seemed only reasonable that they should be leaning on a counter drinking free samples of hot soup.

THE IMPORTANCE OF BEING HERBERT

Last week I wrote of the R.I.B.A. Kalendar and gave the name of the typographer as Gilbert Spencer. It should have been Herbert Spencer, my apologies to both gentlemen.

THE LATE SIGNOR A. OLIVETTI

Industrial Design has lost one of its greatest crusaders in the death, at 58, of Signor A. Olivetti, the Italian typewriter and office equipment king. I quote from *The Times* Obituary column: "Olivetti was a highly successful industrialist, whose wide range of views and activities in the cultural, political, and social fields suggested something nearer the complete man of an earlier age time. There was something of the Renaissance in the breadth of his interests and in his patronage, and something of the eighteenth- and nineteenth-century progressives in his approach to his work —and his workers".

Signor Olivetti will be remembered, not only by the machines which his factory produced, but by the factories themselves and the design and organization of the communities in which his workers lived.

BRONEK KATZ

One of our ablest architects of the younger school, Mr. Bronek Katz, collapsed and died, while ski-ing in Austria last week. Katz was Polish by birth and trained in Vienna where he graduated at the Technical University before coming to this country in 1936. He first worked as an assistant with Maxwell Fry, and later with Professor E. Fry. He first came to public notice, when with his partner, Reginald Vaughan, he won a competition for the design of a dress shop, promoted by Richard Shops. Their design caused something of a revolution, being quickly pirated by shopfitters. Katz and Vaughan were responsible for the homes and gardens section of the South Bank Exhibition, one of its liveliest corners and which earned him a M.B.E. More recently the firm added a wing to the Washington Hotel in Mayfair. Moultons, a large departmental store at Ilford, to their design, is nearing completion. In between Katz designed many small shops, including some for True-form shoe shops. He was also consultant to the Bata Shoe Co. I shall remember him as a slightly melancholy person, whose face would quickly light up with a charming smile. He was 47.

DR. SINGLETON

The death of Dr. Singleton, well known as the founder and head of the York Institute of Advanced Studies, at the age of 44 provided another very unpleasant shock last week. Singleton went from Haileybury to the Liverpool University School of Architecture. He taught

Left, the new Moultons store at Ilford, designed by the late Bronek Katz of Katz & Vaughan. This job established a world speed record in departmental store construction—54,000 sq ft of trading area in 184 days. General contractors: Gilbert Ash Ltd.

EVENTS AND COMMENTS CONTINUED

at the Manchester University School of Architecture from 1943 to 1959, when he left to devote all his time to his work at York. Having been senior lecturer at Manchester he was well qualified to undertake the development of the York Institute, which he began in 1951, by taking over the architectural activities of the York Academic Trust. This led, in 1953, to the foundation of the present Institute of Advanced Architectural Studies. I wrote enthusiastically of this organization after my visit there earlier in the winter. Dr. Singleton was the architect for the conversion of the disused church of St. John, Ousebridge, which is now the headquarters of the Institute. There could be no better monument to him than a developing and thriving Institute at York, but the vacancy left by his death will not be easy to fill.

BUILDING CENTRE POLICY

The letter sent out by the Building Centre on the subject of other building centres is timely. Hardly a day passes without some rumour of a new centre being contemplated somewhere. There are two keys to the problem, the first, is there really a local demand for such an institution, and the second, and more important, would it receive the support of the manufacturer. A building centre to be of any real value to the industry must be comprehensive. An exhibition of this kind costs the manufacturing side of the industry a great deal of money. Calls for support from all and sundry would soon cause alarm and despondency among manufacturers. It is good to hear that the Manchester Building Centre will be opening soon and that the organization of another centre is going ahead for Birmingham. These two have the blessing of the London Centre and, although quite independent, will be organized on much the same constitution as the one in use in Store Street.

ABNER

Letters to the Editor

Is Daylighting Really Necessary?

Sir,—I, as a layman, was shocked to see the above title to a conference of the British Lighting Council (A. & B.N., 24/2/60, page 240). Much as one appreciates recent advances in lighting they are not all to the good and the much despised oil and gaslight background of the older sections of our communities afford an interesting lesson in eye-health. No one has yet calculated the effect of various means of illumination on the eye and health generally, including the impact of television and time is ripe for a departmental committee on the subject. All cannot be well when at least one method of street lighting delays the growth of plants by at least a fortnight!

The most serious point of all is that if some of our lighting friends have their way natural light will be unknown to city office workers in the mid-winter months. Some of us hope that the incidence of the Clean Air Act may enable us to enjoy more winter sunshine in urban areas; at least a third is lost due to atmospheric pollution. Now that hope is to be ducked. Surely we need every minute of natural light possible, especially with exacting mental work, or indeed work of any kind, coupled with good standards of artificial illumination? Can anyone deny that the eye health of the country is declining? The impact of television on the younger generation has yet to be assessed in terms of eye troubles. Need I say more, in favour of natural light?

Yours, etc.,
PRO BONO PUBLICO.

T. E. Scott Proposed Luncheon

Sir,—Mr. T. E. Scott, the head of the department of architecture, surveying and building of the Northern Polytechnic is retiring this year after 39½ years' service at the Polytechnic.

Many past and present students feel this occasion should be marked by a special function at which they would have the opportunity of expressing their personal appreciation of Mr. Scott.

The undersigned consider the best form such a function should take would be a luncheon in London. May we, therefore, ask you Sir, to be good enough to give this matter the necessary publicity in your columns.

Past and present students and staff wishing to be associated with this function are asked, through you Sir, to write to S. J. Proops at 42 Upper Berkeley Street, London, W.1.

Yours, etc.,
M. L. WINSLADE, F.R.I.B.A.
E. E. BARLOW, F.R.I.B.A.
W. W. DOVE, F.I.O.B.
S. J. PROOPS, F.I.O.B.
D. E. WOODBINE-PARISH, F.I.O.B.
H. J. RAYNER, F.R.I.C.S.

Private House Design

Sir,—Am I correct in assuming the roof of the house in Cambridge was torn off in a gale and landed at Monks Eleigh, Suffolk?!

I refer to the photographs in your issue dated March 2, 1960.

Yours, etc.,
R. G. LANSON.

NEWS

New Hospital Building

Answering a question from Lord Balniel in the House of Commons, Mr. Derek Walker-Smith announced additional major hospital projects, which Hospital Boards have been asked to complete. All these projects will be financed from the Ministry's central pool of capital expenditure for meeting the cost of schemes of £250,000 and upwards. The overall cost of all the schemes listed as follows is likely to be of the order of £20m.

New Hospitals.

New teaching hospital for the United Liverpool Hospitals Authority. New maternity hospital for United Birmingham Hospitals Authority.

Further Phases at Existing Hospitals.

Second phase of Crawley, for South-West Metropolitan Hospital Authority. Second phase of Truro for South-Western Regional Hospital Board. Fourth phase of Harlow for North-East Metropolitan Hospital Authority (approximately 200 beds). Completion of Huddersfield Hospital for Leeds Regional Hospital Board. Final phase, providing an annexe for sick, recreation hall and workshops for Oakwood Park Hospital, Conway, for Welsh Regional Hospital Board.

Redevelopment.

Hospital for Gloucestershire Royal for the South-Western Regional Hospital Board. Second phase of Poole General for the Wessex Regional Hospital Board. First stage for New Cross and Royal, Wolverhampton for the Birmingham Regional Hospital Board. Maternity department for Norfolk and Norwich, for the East Anglian Regional Hospital Board. Replacement of maternity unit for Chester City for Liverpool Regional Hospital Board. Neurosurgical unit, including operating theatres and X-ray departments for Walton, also for Liverpool Regional Hospital Board. New maternity unit for Ashton-under-Lyne General for Manchester Regional Hospital Board. New maternity department at Burnley General for Manchester Regional Hospital Board. New maternity department for Watford, for North-West Metropolitan Hospital Authority. First phase of modernization to Royal Berkshire, Reading, including ophthalmic unit, ward, and boiler house for Oxford Regional Hospital Board. Out-patient department at Queen Charlotte's for Queen Charlotte's and Chelsea Hospitals' Authority. Absorption of present maternity units into new and enlarged unit at Margate and Ramsgate General for South-East Metropolitan Regional Hospital Board.

Other Developments.

One hundred extra beds at Scalebor Park Mental Hospital, Burley-in-Wharfedale for Leeds Regional Hospital Board. Enlargement of cancer and radiotherapy services, providing another 130 beds for Christie Hospital for Manchester Regional Hospital Board. Modernizing wards and sanitary services at St. George's Mental Hospital, Morpeth for Newcastle Regional Hospital Board. New boiler house and laundry at Newcastle General, also for Newcastle Regional Hospital Board. Operating theatre suite and diagnostic radiology department at Prince of Wales's Hospital, Tottenham for North-East Metropolitan Authority. Improved out-patient, casualty, physiotherapy and rehabilitation departments at Southend General Hospital for North-East Metropolitan Authority. Modernization of engineering services, including new boiler house for St. John's Hospital, Stone, for Oxford Regional Hospital Board. Enlargement of surgical block with new operating theatres and ancillary departments at Derby City Hospital, for Sheffield Regional Hospital Board. New ward block, out-patients' department and ancillary departments at St. John's, Battersea, for South-West Metropolitan Regional Hospital Board.

New building to rehouse Tavistock Clinic for North-West Metropolitan Regional Hospital Board.

* * *

N.F.B.T.E. President's Press Conference

The new president, Mr. David Woodbine-Parish, supported by the national director, Mr. Peter Trench, held a press conference on Friday last, some points from which were these:

Accident Prevention

Mr. Trench said that 1958 might be a peak year in accidents. The figures for 1959 would indicate the effectiveness or otherwise of accident prevention measures. More accidents were now being reported, and numbers had to be examined against hours worked and numbers of people working. The federation was now getting a better analysis of accidents. It needed to know in what regions, time of the year, on what kind of work, etc., accidents occurred to enable it to break down all accidents so that each class could be tackled. The N.F.B.T.E. booklet* was intended to help building firms with their problems. The latest report on accidents in the building industry† would be studied and future action—which might include an Accident Prevention Week—based on it.

Profit Margins, Costs and Productivity

Mr. Woodbine-Parish explained, in answer to a question, that his recent call to builders to absorb the rise in wages by greater productivity was related to costs and not to profit margins. The latter were slender. There had been a fall in prices of about 2 per cent in 1959, and this had come out of profits. Greater productivity was something which all in the industry (architects, quantity surveyors, engineers, builders, operatives) could profit by. All could improve their performance and we had got to have a greater sense of goodwill between all parties. The projected college for combined education, mentioned by Sir David Eccles at the Institute of Builders' dinner, would go a long way towards helping this.

Civic Responsibilities

Mr. Woodbine-Parish said the federation was no longer a protection society, an employers' association with their members in business solely for money. They were well aware of their social responsibilities and were very active to see that the industry was efficient to meet the enormous demands of the future, brought about by the needs of urban renewal and an expanding economy.

New Technical Officer N.F.B.T.E.

A new technical officer, Mr. E. Thompson B.SC., for many years on the staff of the B.R.S., had been appointed from March 1 to co-ordinate technical information for the federation's members.

National House Builders

Mr. Trench said the National Federation of Registered House Builders were going to consider, at their conference this year, the questions of building flats and selling flats in multi-storey blocks.

* * *

Provincial Building Centres

The Manchester Building Centre, supported by the Building Centre, London, is expected to open next May and discussions are proceeding in regard to the opening of a similar centre in Birmingham. Both of these centres will remain entirely independent financially with a constitution similar to that of the centre in London, with which they will be affiliated.

* "Organise for Safety."

† Report on Safety and Health in the Building and Civil Engineering Industry, 1954-58. Cmd. 953.

NEWS CONTINUED

Proposals have been put forward for setting up similar centres in other provincial towns. As such development might obviously have a direct bearing on the whole future of the building centre movement and on the interests of its exhibitors the Building Centre, London have stated in a letter to manufacturers their policy in dealing with applications for their support. The letter says "Building Centres as at present constituted, receive no Government support, but are entirely dependent for their income on the rents paid by exhibitors. If, therefore, additional centres are to serve their purpose they must be assured of adequate backing from exhibitors, which in turn, depends on their value to the building industry, including architects, surveyors, and manufacturers, and not only as displaying the products of the industry in the fullest possible range, but also as providing technical information and advice." Apart from Birmingham and Manchester, the Building Centre, London, do not contemplate, for the present, supporting similar new activities elsewhere.

New President, Building Centre

Basil Spence has been elected president of the Building Centre to take the place of the late Sir Giles Gilbert Scott.

To-morrow's R.I.B.A. Discourse

Dr. Constantine Doxiadis, who gives the 1960 Annual Discourse at the R.I.B.A. to-morrow night, at 6 p.m., is a Greek consulting architect/planner and engineer. He describes himself as a consultant in Ekistics, the science of human settlements, the concept of the inter-relationship of man and his environment. The title of Dr. Doxiadis's lecture, which he will illustrate with slides, is "Architecture in Evolution".

Dr. Doxiadis's headquarters is in Athens, where his organization, Doxiadis Associates, of international repute, has an office of some 400 people and the working language is English. Dr. Doxiadis sees the architect, engineer, town planner, sociologist and geographer as equal partners in a team with other specialists; his own office is run on that basis.

In Parliament

Advertisement Control Debate

Mr. Henry Brooke, the Minister of Housing and Local Government, during a debate on planning control of advertisements, was asked what action he proposed to take about the public authorities, such as the Ministry of Transport, Post Office and water undertakings who "cluttered up" towns and cities with "street furniture".

Dr. Barnett Stross (Lab., Stoke-on-Trent, Central) said there were about 43 special groups of street furniture which tended to compete one with another in ugliness.

He maintained that if the Government were to move against commercial interests' advertising they would be encouraged if the Government saw that the statutory bodies were asked to put their house in order.

He said one thing could be done at once. "Why not give local authorities the power to challenge those bodies which, up to date, can do whatever they like and which very often supply street furniture which ranks for grant and which competes only in the tawdry and the ugly?"

Mr. Brooke said functional advertisements put up by local authorities might only be displayed if they were reasonably required to obtain the safe or efficient performance of the function concerned and could be challenged if they caused substantial injury to amenity or were a danger to the public.

He said he had seen photographs in the architectural journals depicting places where this created a mess.

He had some sympathy with the criticism that sometimes notices of this character were rather too prolific.

During the debate the Minister was also pressed to introduce planning regulations to control clutter of advertisements on business premises if the voluntary code drawn up by advertisement organizations did not prove satisfactory. (February 29.)

Call for Arts Inquiry

A Labour backbench M.P., Mr. Julian Snow (Lichfield and Tamworth), moving a motion last Friday calling for a Royal Commission to consider the arts, suggested that the terms of reference of the Royal Fine Art Commission should be changed so as to ensure that it was automatically called in for consultation before a project was put in hand.

He asked why it was that the Royal Fine Art Commission was not consulted before major Government projects were put in hand.

He gave as an example the construction of the M.1. "The Commission was not consulted about any of the landscape issues, with which it is deeply concerned, and until the last minute it was not consulted about any of the many bridges which cross the motorway", he said. "No one disputes that it is a major engineering achievement, but the Commission was called in far too late on the question of bridges, although by a small adjustment here and there in many cases it could have produced a much better effect."

Mr. Snow also raised the question of the design of new farm buildings. He said that under present legislation the Minister of Agriculture could provide 50 per cent of the necessary cost, but there was no provision for their design, in order to ensure that they had some relationship to the demands of the countryside and the general picturesqueness desired.

Sir Hamilton Kerr (Cons., Cambridge) thought qualified architects could be more extensively used in town planning.

Later in the debate, Mr. Anthony Greenwood (Lab., Rossendale) spoke of the need for preserving our old buildings. He said: "Week after week we read of an irreplaceable building falling into a state of dereliction or, possibly, being bought by the house-breakers and demolished. It seems that the funds and the powers available to preserve many of these buildings are wholly inadequate".

He agreed, however, that they did not want this country to become the "Old Curiosity Shop" of Europe. He wanted public bodies, both Government and local authorities, to give greater encouragement in giving the impression that this was a country living in the present. He would like the Minister of Housing to recommend to local authorities that when they were putting up new civic buildings or new blocks of flats, they should set aside some comparatively small sum of money, for the provision of sculpture, landscaping and matters of that kind. (February 20.)

Coming Events

London County Council

Now, until March 19, from 10.30 a.m. to 8 p.m., at County Hall, S.E.1. An exhibition on "Crafts in London Schools".

Royal Institute of British Architects

March 10, at 6 p.m., at 66 Portland Place, W.1. "Annual Discourse; Architecture in Evolution", by Dr. C. A. Doxiadis.

The Architectural Association

March 10, at 6.15 p.m. (buffet 5.45 p.m.), at 34-36 Bedford Square, W.C.1. The first of four illustrated talks by Oliver Cox and Robert Purdew on "Housing Development Work by the L.C.C." Talk No. 1—"User Requirements, New Types and Techniques". Admission by ticket only (see January issue of A.A. Journal).

THE PROFESSION IN CONTEMPORARY SOCIETY

Points from the paper presented at the R.I.B.A. last night by W. A. Allen, B.Arch., R.I.B.A. Mr. Allen's paper dealt with science, industry and the professions related; the nature of professions; the profession of architecture and the building profession. These points are from the main section of the paper—the profession of architecture.

IT is well-known to be difficult to see ourselves as others see us, but we can at least consider how we see ourselves.

It seems to me that our greatest difficulties spring from the fact that we have to be at once artists, planners, technologists and men of business, at a time when our art must still be experimental, our planning has to face fresh problems daily, our technology seems to expand like the universe, and new standards of management are demanded everywhere. There are bound to be problems. It is occasionally said that we try to encompass too much, but to concede this would be to accept that the practice of architecture itself had become impracticable. We cannot do that, but what we must recognize is that our responsibilities call for the highest quality entrants, that they must be given a training of quite exceptional calibre, that we must have arrangements for a high-grade type of discussion and information service, and that we must maintain an efficient, liberal and powerful Institute mechanism. Let us consider some of these points.

First, education.

It seems to me that the toughest problem we face here is in handling science and technology. This is the groundwork, both of our art and our general competence, but more than this, it is the vital training ground for the mind, the place to develop its capacity to think logically and incisively, to read widely and understand, to innovate and deal with innovation. These are essential qualities for leaders to possess and leadership falls to our lot.

We have some tenacious obstacles to overcome. For one, we have been unable to free ourselves yet from the handicap of books and teaching based on engineering. This is not to decry engineering for engineers, but engineering for architects. What we have had and still often get are watered-down courses intended merely to make us acquainted with such subjects as foundations, structures, light, heat, ventilation, sound, sanitation, equipment, etcetera; it is said that there is no time for more, but more, if it were given, would at present probably lead only to more competence in computation, and this is not what we mainly require. A good building is a single organic embodiment of all its technical functions, its planning requirements and its aesthetic idea; it requires policy-level thinking about each aspect in order to get it organized properly from the outset. We require therefore neither a mere acquaintance with these technologies, nor yet a full-blown computational familiarity, but the basis for sound policy decisions about design, and this often involves not engineering alone but economic, industrial, and human parameters. On the computational side all that seems essential is a sufficient ability to carry out the engineering design necessary for small jobs on which consultation is impracticable. On the larger jobs the approach I describe ought to improve our work with consultants.

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A second matter of our education is this. We have brought about, since the war, a new attitude among architects to the management of building costs. "Value for money" has been the subject of a long procession of conferences, symposia, and discussion meetings. Largely it has grown out of our successful attack upon the costs of schools by which, according to the Minister, the country has been saved more than £200m. A determined and sustained effort is being made to formulate ways of reaching balanced and factual decisions about cost from the earliest stages of a design. This is being introduced now into Schools of Architecture, but I would like to urge that at the same time cost-management should be set in the right framework for a profession in our position. It must be linked to national economic planning and money policies, and include the methods of financing buildings as well as their true costs in use. Our concern must be not only for individual buildings, but for the nation's building.

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This leads naturally towards a third educational concern, which is the attitude we cultivate to professionalism. Now I am not going to criticize our behaviour as individuals for I think it is not at all bad, and relatively it is probably quite good: but we do not have a strong *collective* sense of professionalism.

I believe this to be mainly because we have not yet brought into sharp focus a sense of social purpose; we have not identified a specific major responsibility to society which society itself sees and shares. We know what we as individuals expect of our doctors and the State knows what it expects of the medical profession. We see and believe in the value of what we ourselves do, both for the economy of the country and for the human spirit; and there is encouraging awareness of it in the community, but not yet a specific feeling of indispensability. For evidence there are still two or three major departments of Central Government with large building programmes but no effective architectural control of them, and 36 county boroughs still face the continuing process of their growth and renewal without the guidance of hands and minds trained for the design of environment. We believe this to be wrong and irresponsible, for the sums concerned, both of money and human happiness, are very large, especially in the county boroughs where the issue at stake is nothing less than their future character and efficiency as cities. It is true that in matters of this kind there has been a great improvement since the war, but it is obvious that the country as a whole has not yet crossed the border-line from "desirability" to "indispensability" in their view of our services.

I think this is only a matter of time, however, for it is not long since we ourselves crossed over the borderline from the old idea of waiting to be consulted to the modern concept of a service to the community and we have done it almost without realizing it. The success of the schools programme led the way towards the new attitude but never proclaimed it as an objective.

It spread to local authority programmes generally and they too have been successful. Now we have in fact arrived at an entirely novel position in society which neither we, nor it, have specifically appreciated, for it appears that as a profession we have become the channel for the largest single sector of the community's fixed capital investment, with the general responsibility for an expenditure of somewhere between £700m and £800m annually. Realization of what this means in terms of responsibility to the community will, I hope, give us the focus I believe we need for a stronger collective sense of professionalism, and give a specific scale and purpose to our work in the eyes of the public.

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Before the war we tended to follow a tradition of learned discussion, with a series of respectable papers on high-minded themes. Their chief distinction was their

THE PROFESSION IN CONTEMPORARY SOCIETY

civilized character, and their chief fault that they passed over some of the problems of the day. In recent years we have developed what I would call a functional approach, identifying matters of all kinds that need discussion and designing each time the types of meeting that seem best for the purpose.

Other professions do things differently. Take for example our friends the electrical and civil engineers. Both lean heavily on their performance as learned societies, and a large proportion of their institutional energy and budgets goes into the reading and discussion of papers, which are almost exclusively technical. In a separate journal the electricals publish some papers of general interest, including reprints from other sources. Professional topics are seldom treated and then on a rather *ad hoc* basis. An association of consulting engineers, a rather close-knit body, exists to deal with some professional matters, but publishes no journal. Matters such as design, in the sense in which we use that term, or the needs of man in a cultural or philosophic sense, which to us seem necessary to give purpose and direction to technology, do not normally receive attention.

Now wherein does the right course lie for us? I believe we can best seek this by going back to the purposes which publication and mature discussion is supposed to serve.

Remember, to begin with, that a profession is for the application of specialized knowledge, then, perhaps, these four requirements can be identified:

The consideration of new-acquired knowledge

The gathering together of the fruits of practical experience

The discussion of the social, economic and industrial context of our work and the study of matters affecting professional life and efficiency.

In four words, science, experience, purpose and efficiency. All are part and parcel of the professional life, and considered by these criteria, I do not think either ours or any other professional society's pattern of publication and discussion looks very satisfactory. Ours, I think, is now more balanced and sensitive than any I know, and these are real merits; but it fails seriously to gather in experience or to advance learning and is altogether too thin as a whole. The more usual pattern which concentrates on the technology has clear merit in those last respects, and by conventional standards is generally judged more "learned". But architects would agree, I think, in feeling that it lacks the balance which they hold to be essential for sound and responsible attitude to the community's needs.

A point to which we must seriously direct our attention is the advancement of learning. We make advances in practice; a great deal of original work is done by the profession, but we singularly fail to get it recorded. In the absence of a separate learned society we cannot limit ourselves to interpretation and application.

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Our Council has made a number of maior reforms in the past few years and others are under discussion. This is not the place to discuss them in detail, but two or three of them are new in principle, and for this reason I must bring them into this discussion.

Our unit for professional research is the most recent of our departments, and it has few equivalents. Its job is to study our vital statistics, our own professional efficiency, the economic data relevant to our work and policies, and so on. It now provides quarterly information to the Government about new commissions coming to private architects, providing thus some indication of the work-load likely to fall upon the Industry, a type of service which seems a good example of what a Government is entitled to expect from well-run professions, and which has earned us some thanks.

But this is the fringe of the potential work of the unit. In spite of the large amount of work now processed annually, the incomes of architects are well below what they should be if rewards are to be consonant with the skill, responsibility and diligence now exercised. Design may be too cheap; certainly, as all good professionals do, we expend much effort to reduce costs to the client, which in turn reduces our own rewards. This paradox is part of a tradition, though its quaint appeal is losing its grip. Architectural design is a type of activity in which costs are, perhaps, particularly difficult to control, for there is infinite opportunity and desire for refinement of detail. Stopping points are not so obvious as in some professions, and this may be a serious matter for us. At the same time, our own efficiency seems to vary greatly from office to office, and costs vary from one building type to another. Almost certainly there are better prospects of improved rewards from higher internal efficiency than in raising fees; but whether this is so or not, the whole matter can clearly benefit from the establishment of facts in place of the largesse of opinion on which we have to depend at present.

Linked to this is a matter much discussed at the moment, which some call the idea of a two-tier profession. A third of our office man-power is not architecturally qualified; that is, we employ one unqualified person for every two qualified. In some offices the so-called unqualified staff (actually often with other qualifications) outnumber the qualified, but in other offices the reverse is true, and sometimes there are none at all. Many are employed as assistants, but some rank equal to or above qualified men. Some of our best designers argue that everybody in the office ought to be a qualified designer, and others, equally good, say this is an impracticable way to try to run things today.

This is not the place to debate the pros and cons, but there are three general observations worth making.

First, there is no point in supposing that we can get on without these people; we would not have enough man-power, even if offices were willing to try; and they aren't.

Second, they appear to include many who are striving for an architectural qualification, because it is the only status of value within reach, even though not well suited to their abilities. This raises the question whether there is not some better training and status which could be devised for these people.

This leads, third, to the idea that this type of staff might be specifically trained to carry part of the technical burden of the modern office, both at junior and senior levels.

In spite of remarks in the press, I do not see anything alarming or inappropriate in considering such matters; quite the opposite, in fact; and there is a matter of principle involved, for clearly a profession has an obligation to see to the professional welfare of those who are its dependants. We work in an age of organization and these people must have a specific place in the pattern.

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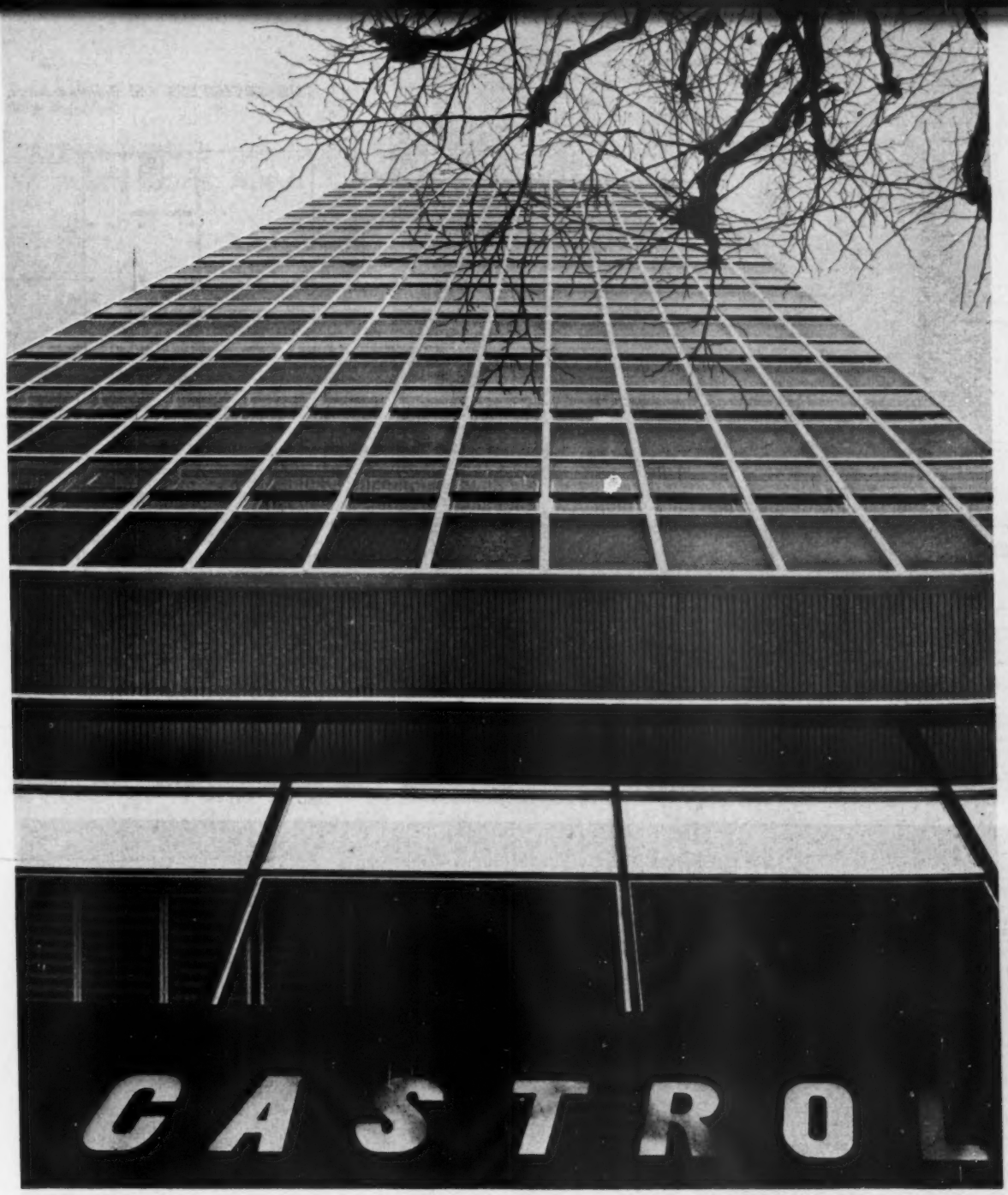
A different kind of problem is whether architects should be allowed to take directorships in the building industry. We have a prohibition on this, formulated by Soane in the early 1800's as part of his purification process. I think we ought to be clear that the valuable part of the principle lies only in preventing a person from offering services which may not be impartial; if he offers no services at all to the public, no harm is risked. I think we are alone among the professions in maintaining a prohibition of this kind, for I think others permit the taking of directorships if a person does not mix this with practice. Civil engineering firms are often run by civil engineers, and I think it very likely that the work is done better because of it, and that their Institute benefits from the industrial experience and the influence open to it. It seems to me no real issue at all, and that we ought to dispose of it at once.

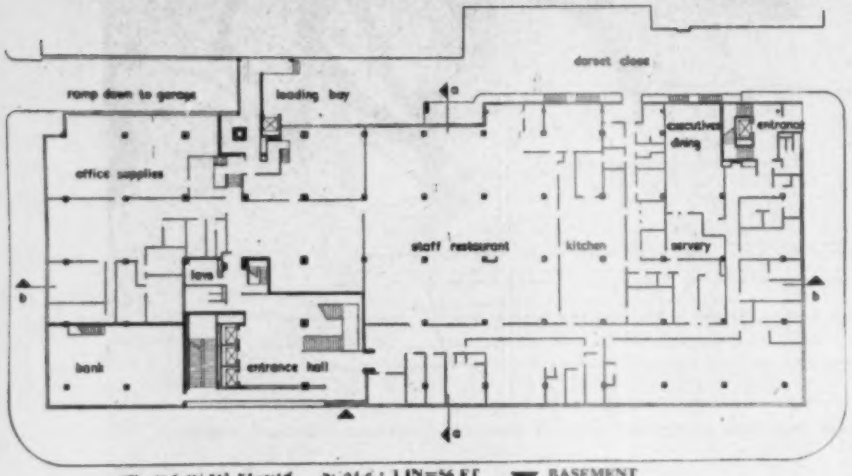


Photos: HENK SNOEK

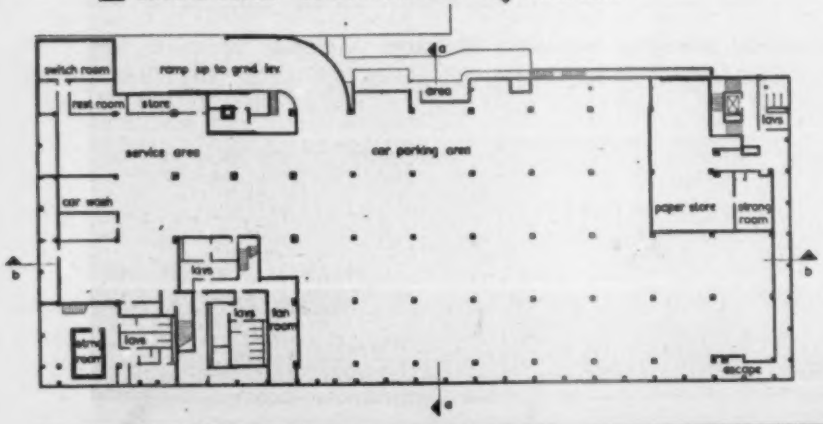
CASTROL HOUSE, ST. MARYLEBONE, N.W.1

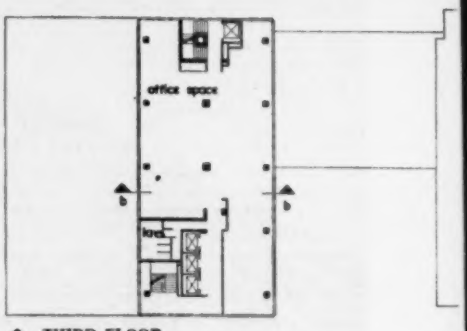
Client: THE HAMMERSON GROUP OF COMPANIES
Architects: GOLLINS, MELVIN, WARD & PARTNERS *in association with* SIR HUGH CASSON, *and* NEVILLE CONDOR *and* ASSOCIATES
Assistant Architects: A. J. HOFFMAN, H. PRIME, *and* T. STUTELY
Quantity Surveyors: H. R. HEASMAN & PARTNERS
Structural Engineer: W. V. ZINN
Mechanical and Electrical Engineers: EDWARD A. PEARCE & PARTNERS

Castrol House, the new headquarters of the Wakefield Castrol group of companies, was recently opened by the Minister of Transport, Mr. Ernest Marples. This uncompromising design, already a familiar London landmark, is the result of a number of years' experimentation by the architects with curtain wall design (two well-known precedents in New Cavendish Street, A. & B.N., 16.5.58 and 4.10.56). Whatever one's standpoint on the insecure ground of architectural aesthetics, this is a well-considered building and one which has come into being in spite of the restrictions within which any architect must work. It is significant in that it gives fresh evidence of the possibility of good twentieth-century design in this country



▲ GROUND FLOOR. SCALE: 1 IN=56 FT ▼ BASEMENT



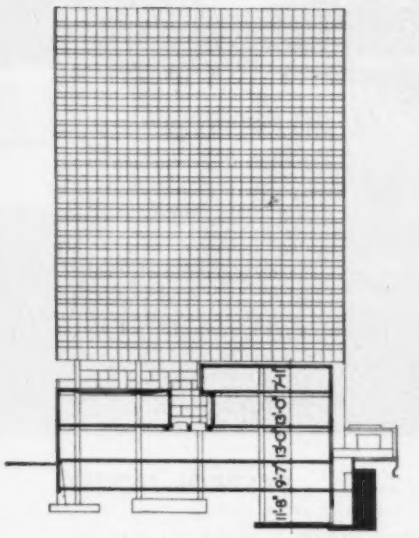


▲ THIRD FLOOR

Castrol House covers the entire site to a height of two floors with a third floor set back. Above this at the western end of the building a twelve-storey glass tower rises to a height of 168 feet, providing a total floor area of 165,300 square feet with a plot ratio of 3.5 to 1. The height of the tower block was restricted owing to the neighbouring Marylebone Town Hall tower. But for the close proximity of this tower the third floor accommodation would have been added to the tower block, thereby increasing the impact of the building. Below, the Marylebone Road frontage

THE ARCHITECT and Building News,
9 March 1960

CASTROL HOUSE
ST. MARYLEBONE, N.W.1



SECTION A-A

Curtain wall spandril panels in the tower block are of green opaque glass with built-in floodlight units. At night, this illumination picks out the horizontal bands and provides unexpected drama for the passer-by. Below, a night shot of the entrance doors

CASTROL HOUSE represents a compromise between a simple rectangular building running parallel to Marylebone Road (to conform with the wishes of the Royal Fine Art Commission for a corridor street), and the original conception of a tower block, with a patio, to which the public would have access on the ground floor (see photo facing page).

Structure

A good load-bearing strata was found at approximately 10ft below basement slab level, column foundations being designed on a series of independent mass concrete bases. Due to the unequal loading on the strata, between the tower block and the low block, it was decided to incorporate a pair of settlement joints on either side of the tower block.

To allow for flexibility in planning and the running of services (heating, lighting, ventilation, pneumatic postal-shoot system and closed-circuit television), a flat slab structural system in reinforced concrete was adopted, thereby dispensing with the problem of providing holes through downstand beams. To give added rigidity to the structure, walls for lift enclosures and fire-cells have, wherever possible, been incorporated into the structural design.

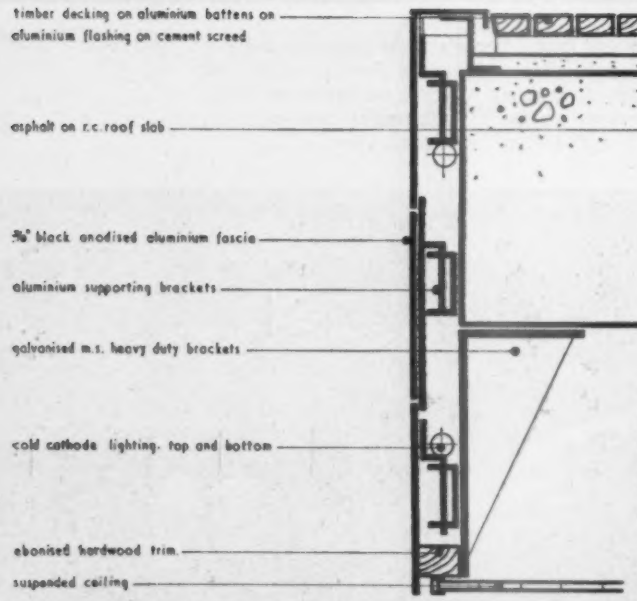
Curtain Walling

It was decided from the outset to completely enclose the building with

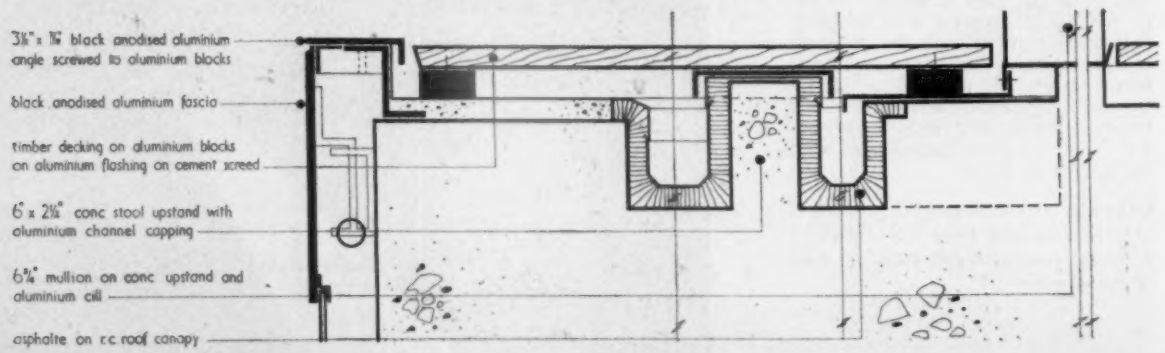
Continued on page 317

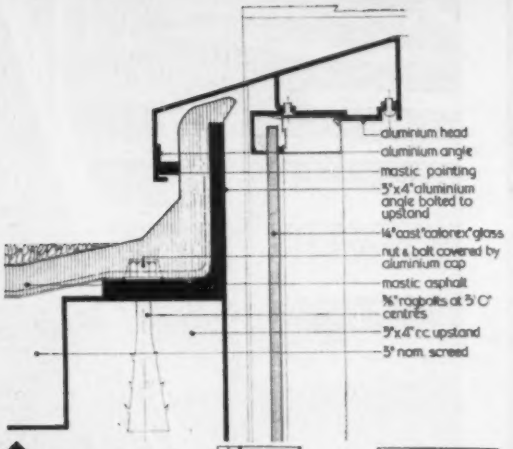
CASTROL HOUSE

SECTION THROUGH CANOPY SCALE : 1/6 FULL SIZE

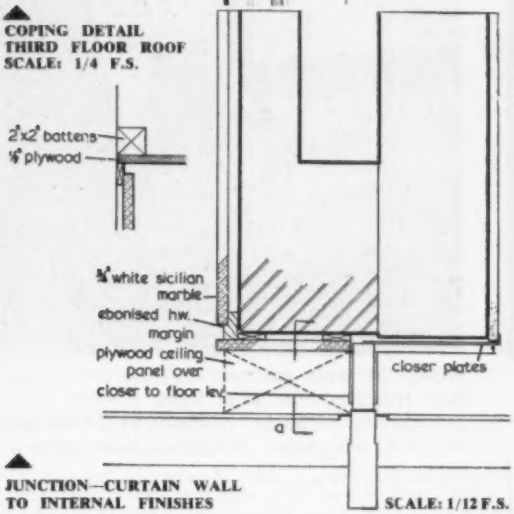

timber decking on aluminium battens on aluminium flashing on cement screed
asphalt on r.c. roof slab
⅝" black anodised aluminium fascia
aluminium supporting brackets
galvanised m.s. heavy duty brackets
cold cathode lighting, top and bottom
ebonised hardwood trim
suspended ceiling

The main entrance hall is enclosed by a screen of plate glass framed in stainless steel and aluminium. On the rear wall a strongly modelled piece of cast aluminium sculpture, by Geoffrey Clarke, provides effective contrast with white Sicilian marble and orange mosaic elsewhere. Detail, left, shows the canopy structure. Timber decking on the upper surface combines with strip flooring to effect one plane penetrating the glass wall (see photo facing page)


3½" x ⅜" black anodised aluminium angle screwed to aluminium blocks
black anodised aluminium fascia
timber decking on aluminium blocks on aluminium flashing on cement screed
6" x 2½" conc stool upstand with aluminium channel capping
6¾" mullion on conc upstand and aluminium cill
asphalte on r.c. roof canopy

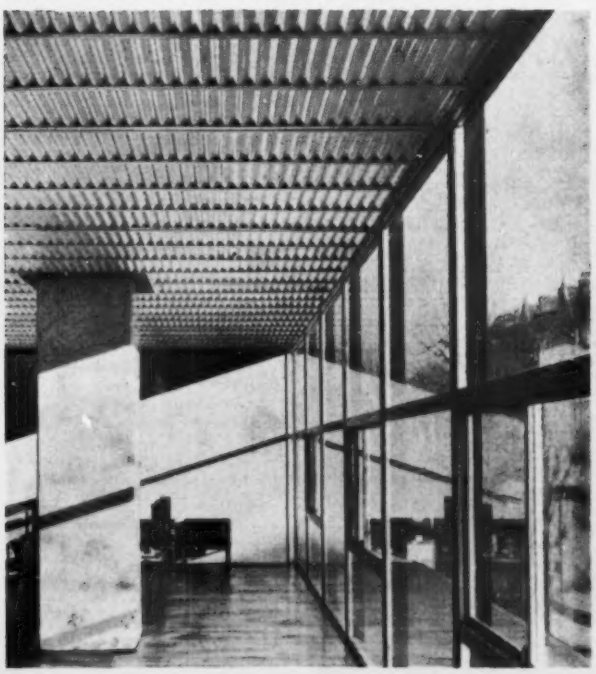


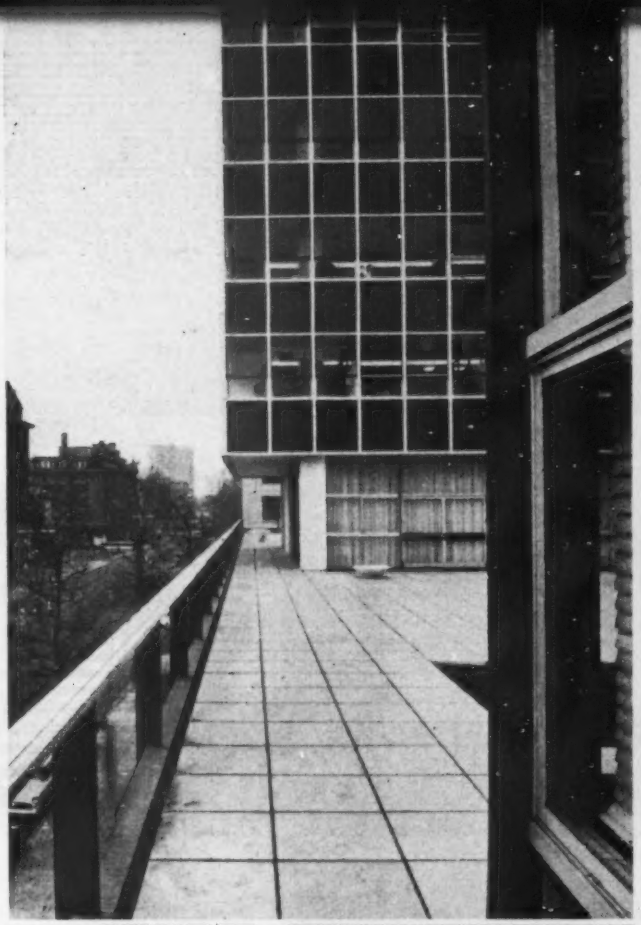
COPING DETAIL THIRD FLOOR ROOF SCALE: 1/4 F.S.

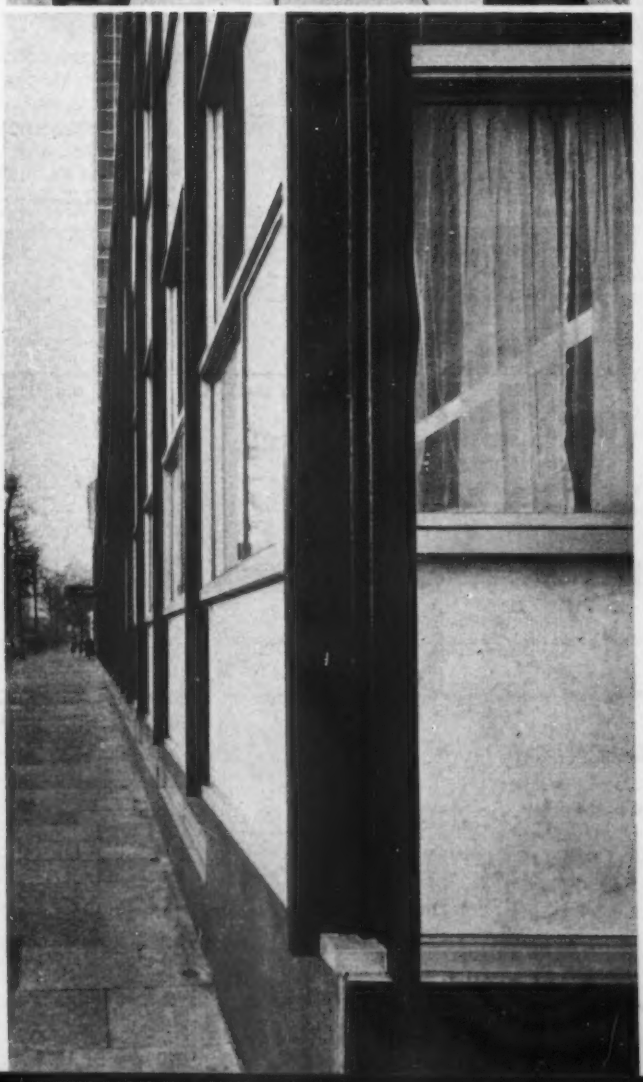


JUNCTION—CURTAIN WALL TO INTERNAL FINISHES SCALE: 1/12 F.S.

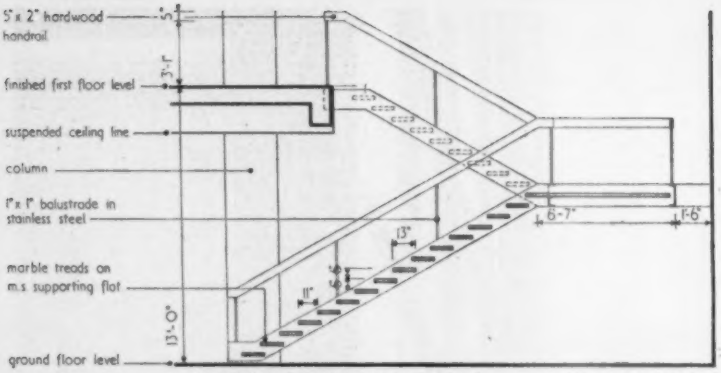
Right, two detail shots of the curtain wall technique. The low block consists of black, anodized, naturally finished aluminium transomes and cills. Spandril panel inserts are in white Sicilian marble, and on the north elevation ¼in Calorex glass. These extrusions were designed for the Lennox Building in New York. The tower block consists of a deep anodized aluminium grid, with vertical sliding sash inserts, the top sash being black anodized finish. These sections were especially designed for this tower. The spandril panels are in ¼in green Calorex glass



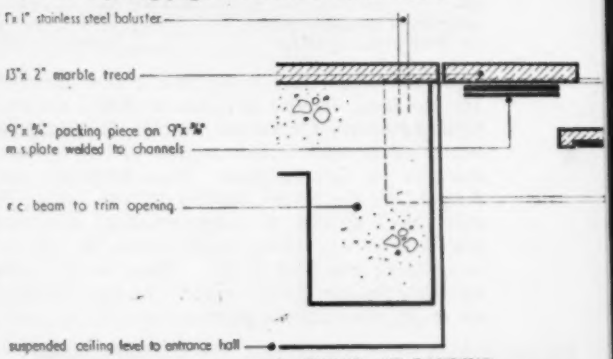




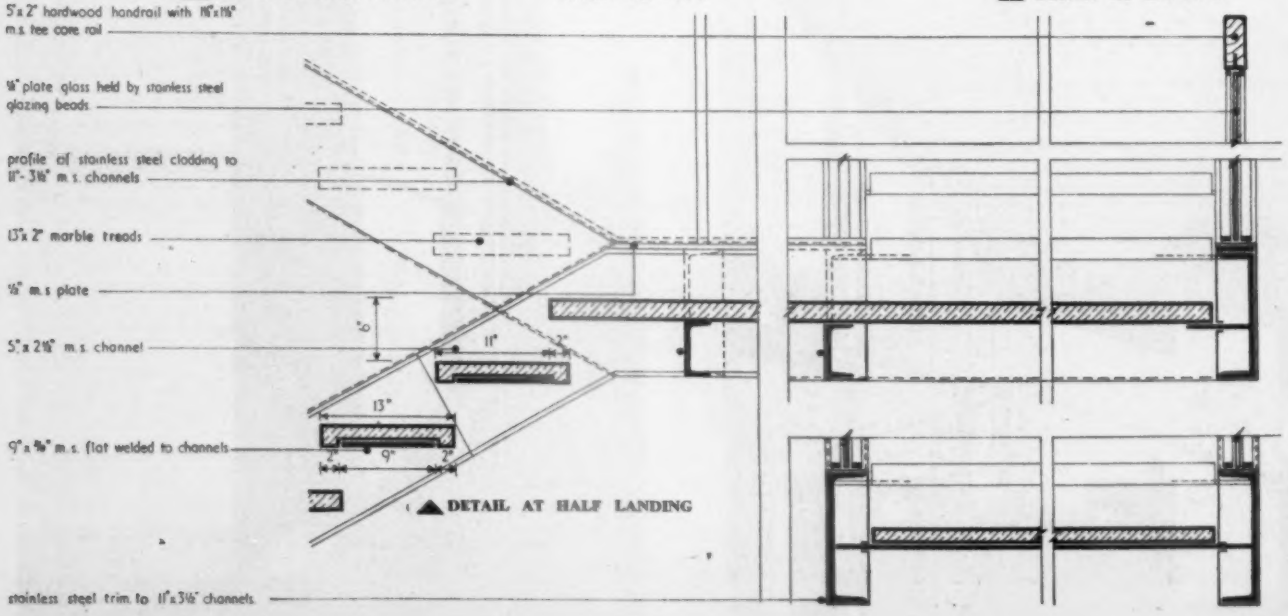
Above, the main entrance staircase and ground-floor reception desk with, right, a detail of the balustrading. A further viewpoint on the staircase is on the facing page. Details are shown below



▲ KEY SECTION TO STAIRCASE SCALE: 1 IN=8 FT


1" x 1" stainless steel baluster
13" x 2" marble tread
9" x ¾" packing piece on 9" x ⅜" m.s. plate welded to channels
r.c. beam to trim opening
suspended ceiling level to entrance hall

▲ DETAIL AT LANDING


5" x 2" hardwood handrail with ⅜" x ⅜" m.s. tee core rail
⅜" plate glass held by stainless steel glazing beads
profile of stainless steel cladding to 11"- 3⅛" m.s. channels
13" x 2" marble treads
½" m.s. plate
5" x 2½" m.s. channel
9" x ⅜" m.s. flat welded to channels
stainless steel trim to 11" x 3⅛" channels
5"
11"
2"
13"
9"
2"

▲ DETAIL AT HALF LANDING

an aluminium curtain wall. The curtain wall to the low block was based on a 7ft 9in module, divided into two for partitioning, and the one in the tower being a 4ft module throughout. Advice was sought from the Aluminium Research Development Association on the subject of corrosion of aluminium alloy in the London atmosphere. They recommended that, whether it was intended to use naturally finished aluminium or black anodizing, the sections should be deep anodized to approximately 1/1,000th of an inch.

The curtain walling has been detailed in such a way as to allow for the maximum amount of vertical and horizontal expansion that might occur over an extreme temperature range. Each section of the curtain walling slides within itself and all expansion joints are concealed.

Services

Heating. Space heating is provided by a series of ¾in diameter tubes fixed to the soffit of the floor slabs in the suspended ceiling void. This form of heating is very flexible and can be designed in such a manner that partitioning can be erected or changed without altering the system.

Fire fighting equipment. The basement car park has been provided with a sprinkler system and provision has been made for a dry riser system right throughout the two-storey block and tower together with a hose reel system, hose reels being installed in the circulation cores at strategic points on all floors.

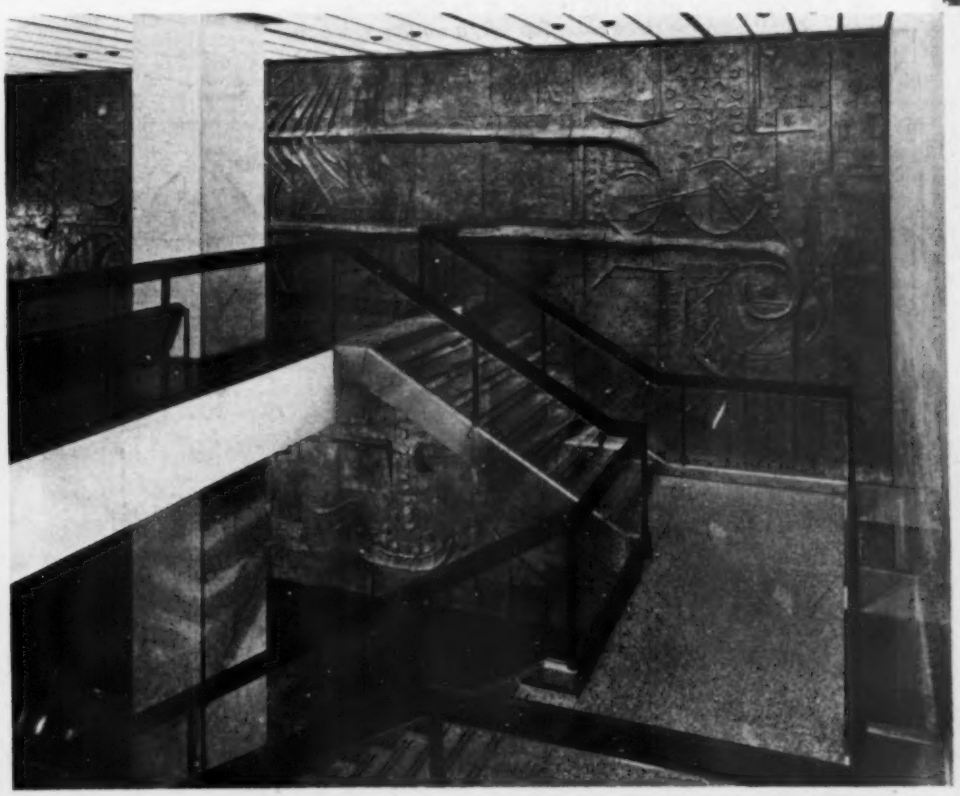
Lighting. Cold cathode lighting is provided in continuous runs throughout the office areas. Partitions at right angles to the runs will be on a regular grid and will coincide with the regular divisions in the lighting trough. The lighting will give an intensity of 20ft candles at working level and is controlled by photo-electric light-sensitive units, which will come into operation automatically when daylight intensity falls below, or rises above, a predetermined level.

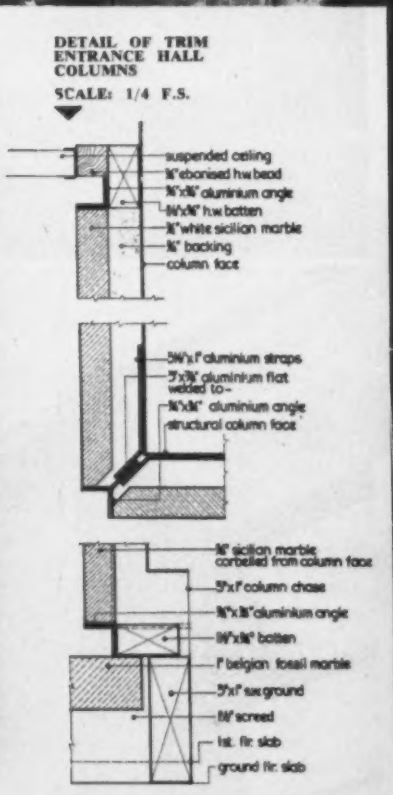
Cleaning. It is proposed that the building will be cleaned down three or four times a year. The tower block will be cleaned by electrically controlled gondolas suspended from a cantilever cradle trolley running on tracks on all four sides of the tower block at roof level. Special buffers and protection have been incorporated into the design of the

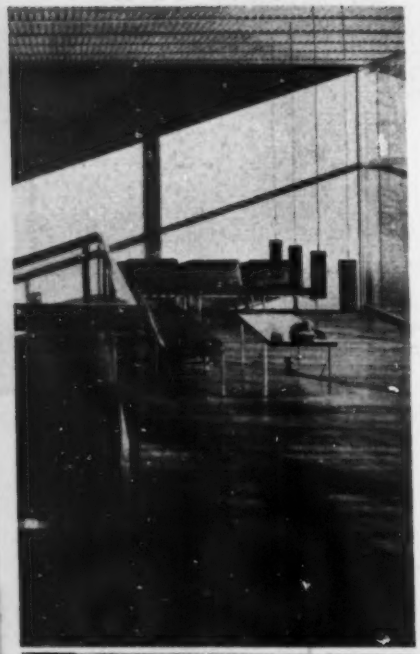
Continued on page 319

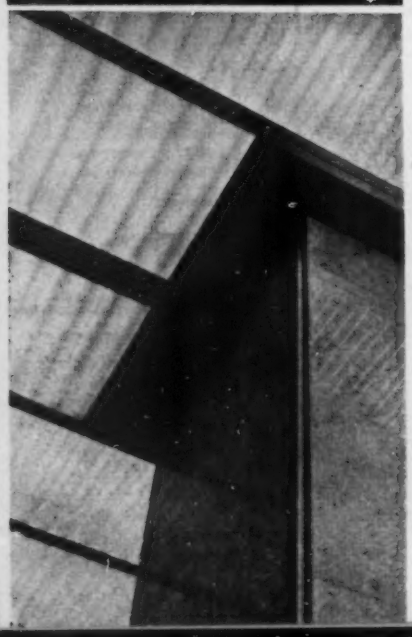
CASTROL HOUSE

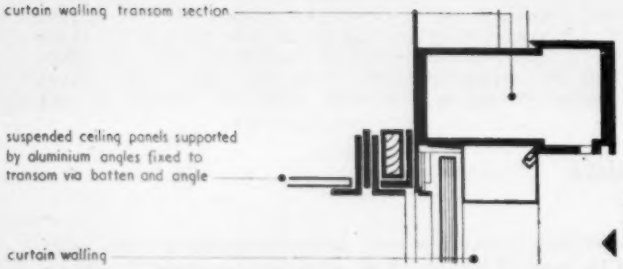
The stainless steel and glass staircase is seen, below, set against a metal relief sculpture depicting the story of lubricating oil, while Sicilian marble is used on columns and flanking walls. Belgian fossil marble is used for the floor at entrance level and Burma teak strip on the first floor. Lighting at the lower level consists of 200 small fittings set in a Daempa ceiling (see photo opposite), with cold cathode strip behind corrugated Perspex panels on the first floor (see detail on page 318)







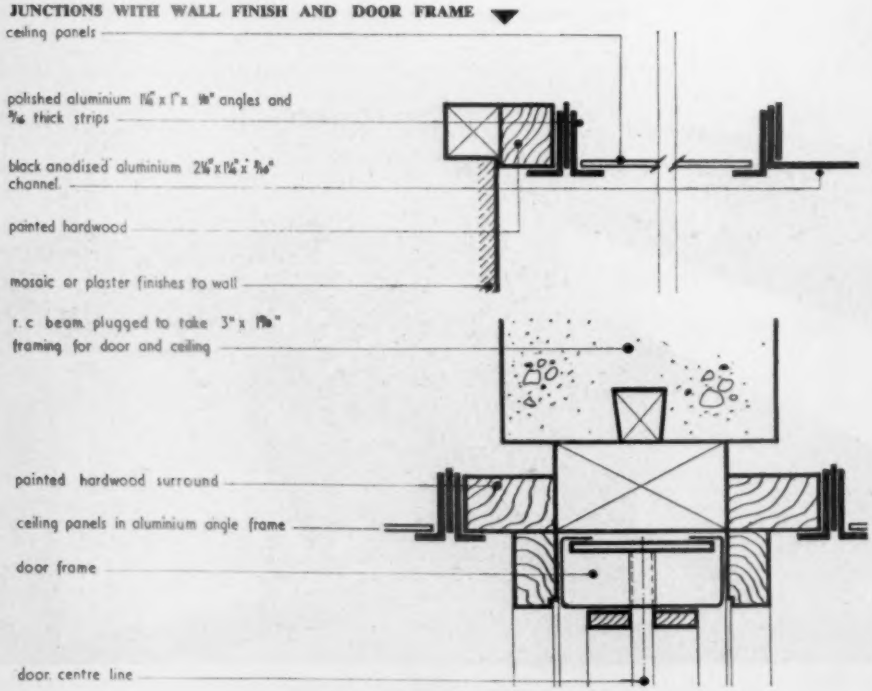



curtain walling transom section
suspended ceiling panels supported by aluminium angles fixed to transom via batten and angle
curtain walling

JUNCTION CEILING TO WINDOW-WALL

Top, lift doors on the ground floor set within an orange mosaic wall which expresses the vertical circulation element for the full height of the tower. Perspex laylights over the lift enclosure conceal cold cathode strip lighting, areas of which cut in automatically when a lift arrives at the floor, throwing a beam of light onto the threshold. Top left, a waiting space on the first-floor landing with, below, a detail shot of the junction between column and illuminated ceiling. Key junctions to this ceiling are shown on this page

JUNCTIONS WITH WALL FINISH AND DOOR FRAME


ceiling panels
polished aluminium 1⅛" x 1" x ⅛" angles and ⅜ thick strips
black anodised aluminium 2⅛" x 1⅛" x ⅜" channel
painted hardwood
mosaic or plaster finishes to wall
r.c. beam plugged to take 3" x ⅞" framing for door and ceiling
painted hardwood surround
ceiling panels in aluminium angle frame
door frame
door centre line

CASTROL HOUSE

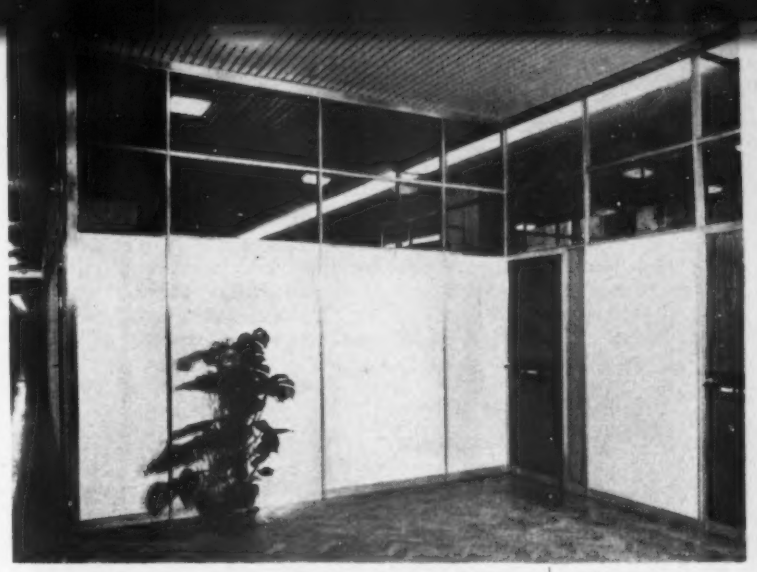
gondolas to overcome the problem of chafing against the side of the curtain wall. Most of the two-storey block will be cleaned by means of a demountable movable trolley, some 22ft in height.

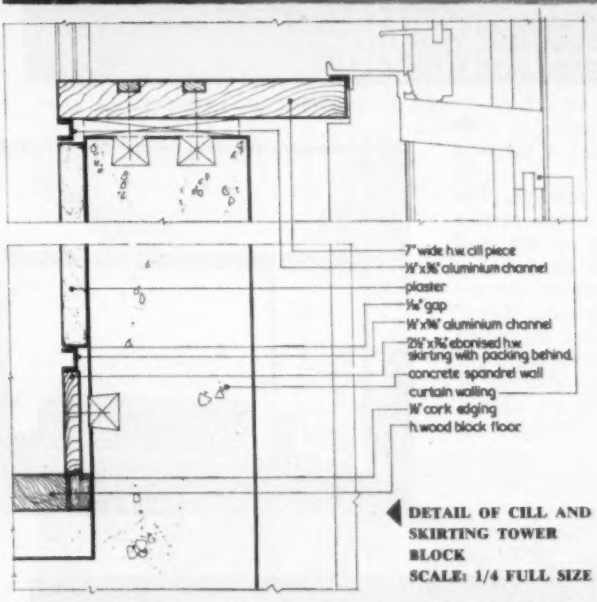
Floodlighting is by means of 4ft lengths of cold cathode tubing connected in series round the periphery of the tower block at suspended ceiling level set between the Calorex spandril panels and the concrete back-up wall.

General Contractors:
SIR ROBERT McALPINE & SONS, LTD.

Sub-contractors and suppliers:

Access Ladders and Traps: Loft Ladders Ltd. *Asphalt Roofing:* Ragusa Asphalte Paving Co. Ltd. *Balustrading:* Grundy Arnatt Ltd. *Blind Boxes:* Williams & Williams Ltd. *Cinema Seating:* Dawsons (Seating) Ltd. *Clock System:* Telephone Rentals Ltd. *Cleaning Cradles:* Palmers Travelling Cradle & Scaffold Co. Ltd. *Cold Cathode Lighting:* Ionlite Ltd. *Column Guards:* Huntley & Sparkes Ltd. *Curtain Walling:* Williams & Williams Ltd. *Drainage:* J. & S. Wright & Sons. *Domestic Kitchen Fittings:* Kandya Ltd. *Electrical Services:* Electrical Installations Ltd. *Floodlighting:* Ionlite Ltd. *Fire Shutters:* Dennison, Kett & Co. Ltd. *Glass and Glazing:* Clarke Eaton & Co. Ltd. *Helical Staircase:* Grundy Arnatt Ltd. *Incinerators:* Barrywald Products Ltd. *Internal Partitioning:* Holoplast Ltd. *Internal Telephones:* Telephone Rentals Ltd. *Interior Furnishing Contractors:* Heal & Son. *Ironmongery:* G. & S. Allgood. *Joinery and Doors:* Samuel Elliot & Son (Reading) Ltd. *Kitchen:* Benham & Son. *Lift Laylights:* Grundy Arnatt Ltd. *Lifts:* Otis Elevator Co. Ltd. *Marblework:* Walter W. Jenkins Ltd. *Mechanical Services:* Matthew Hall & Co. Ltd. *Metal Grilles and Decking:* Somerville-Barnard Construction Co. Ltd. *Mosaic and Terrazzo:* The Alpha Mosaic & Terrazzo Co. Ltd. *Main Entrance Hall Ceiling:* Ionlite Ltd. *Main Entrance Hall Staircase:* Grundy Arnatt Ltd. *Paints and Varnishes:* Goodlass Wall & Co. Ltd. *Plaster & Granolithic Work:* J. Abbot (Plasterer) Ltd. *Plumbing Patents Solids Divertor Plant:* Pulsometer Engineering Co. Ltd. *Pneumatic Messenger Service:* Lamson Engineering Co. Ltd. *Roof Lights:* T. & W. Ide Ltd. *Roof Paving (Low Block):* Empire Stone Co. Ltd. *Roof Paving (Lower Block):* Rubberoid Paving Co. Ltd. *Roof Screeds:* socrete Ltd. *Rubber and Thermoplastic Tiles:* Semtex Ltd. *Sanitary Fittings:* John Bolding & Son Ltd. *Shopfitting (Entrance Halls):* Grundy Arnatt Ltd. *Sliding Gates:* Bolton Gate Co. Ltd. *Soap Dispensers:* Horton Manufacturing Co. Ltd. *Special Glass Work:* The London Sand Blast Decorative Glass Work Ltd. *Suspended Ceilings:* Daempa Acoustics Ltd. *Venetian Blinds:* J. Avery & Co. Ltd. *Wall and Floor Tiling:* Tile Decoration Ltd. *Waterproofing:* Quickset Water Sealers Ltd. *Woodblock and Strip Flooring:* The Philip Flooring Co. Ltd.



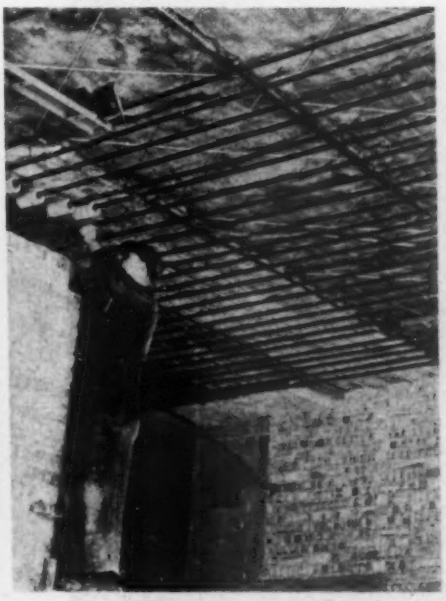


DETAIL OF CILL AND SKIRTING TOWER BLOCK
SCALE: 1/4 FULL SIZE

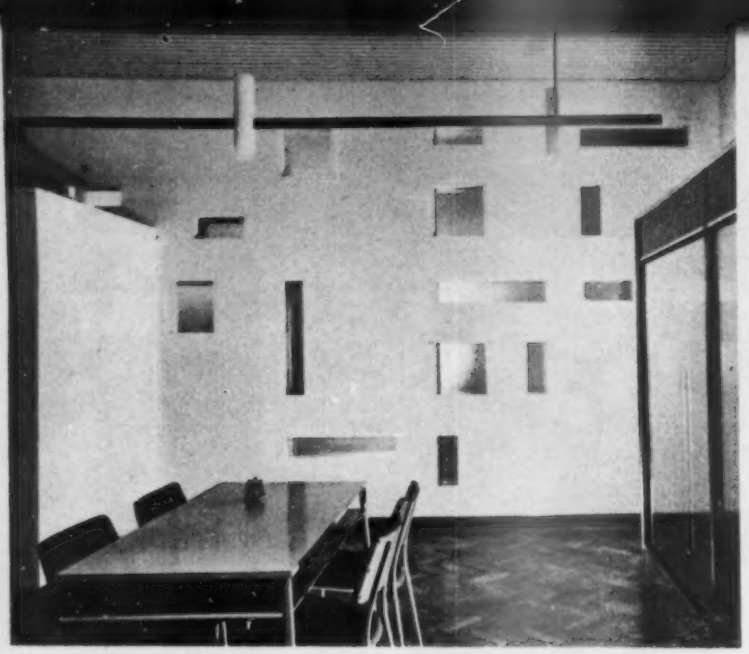
Above, a general view of circulation areas. Below, office space in the tower block. (1) Ceiling lighting in the form of cathode tube in continuous runs has yet to be installed. Detail of cill and skirting is shown above. (2) Space heating being installed at ceiling level. (3) Fitting the suspended ceiling made from aluminium panels 2¾in wide

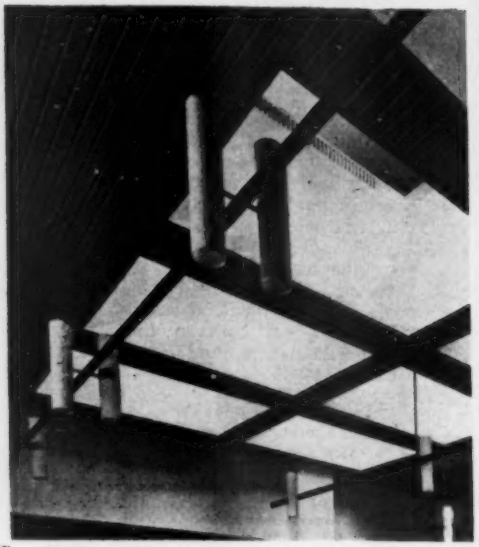
1

2

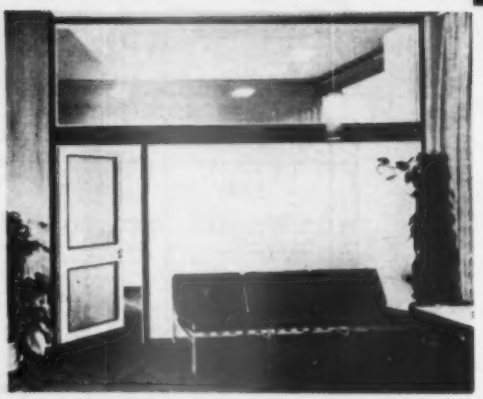


3



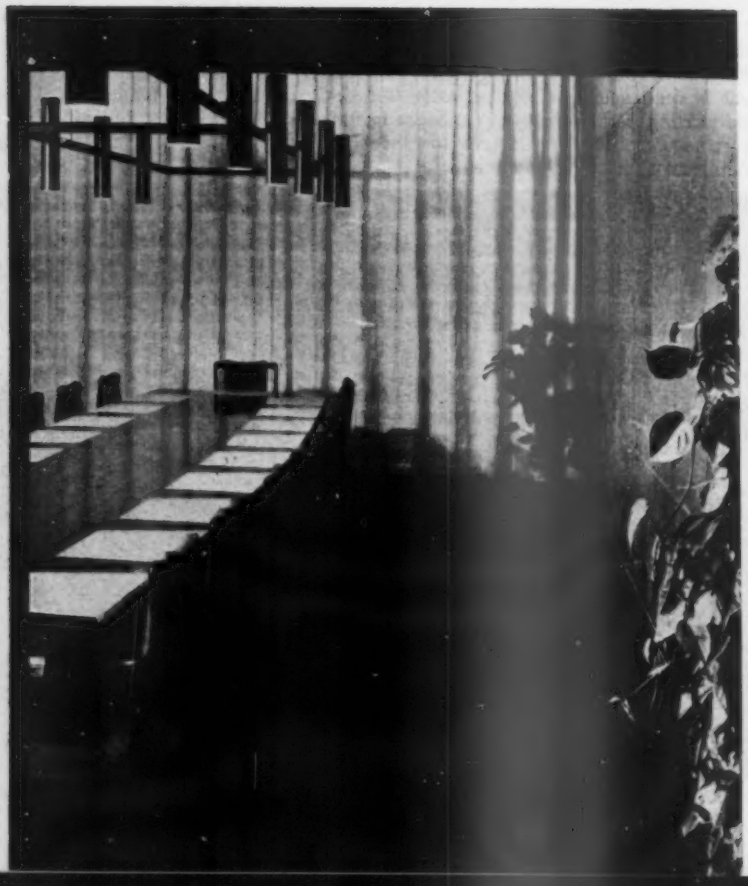


Above, part of the staff restaurant. The partition has coloured glass set in random pattern to break up the wall surface while providing added interest in the corridor beyond. Detail of the restaurant ceiling is shown to the right



Three shots of the boardroom suite. Left, a waiting space outside the writing room. Bottom left, the boardroom. A rosewood table top with grey leather inserts, some 26ft long is supported on two cast-iron bases. Inner curtains are of "oatmeal" fabric; wall of natural leather and floor a "storm blue" carpeting. The light fitting is purpose made. Below, a robing room

CASTROL HOUSE



Sketch: MICHAEL SOUTHGATE

Again, towards the north, at the distance of an arrow's flight from the palace, but within the two walls, the Great Kaan has had a little hill or mound made, quite a hundred paces high, and over a mile in girth. It is covered with trees that never lose their leaves, but always remain green. And you must know that if the Great Kaan is told that in given place there is a beautiful tree, he has it taken wherever it be, roots and all, and with a great deal of soil, and has it carried on to the little hill by elephants. And were the tree as big as you will, he would be sure to do so. In this way there are in that place the finest trees in the world.

Travels of MARCO POLO

Big Trees for Buildings

From time to time we have commented on the need for large trees for planting on new construction sites, as was the custom a century ago in this country and is common practice today on the Continent. Gordon Logie, A.R.I.B.A., A.M.T.P.I., *was asked to make a study of the problems and he discusses them in this article*

MANY architects are now alive to the possibilities of landscaping in general and large trees in particular. In laying out a new site there is now a fair chance that the architects concerned will think intelligently about the planting. They will fit the building round the existing trees if they are worth preserving; they will set aside a sum (probably still quite inadequate) for planting and site works; and they may even call in a landscape consultant early enough to allow for a good layout of major planting unimpeded by drains and service mains.

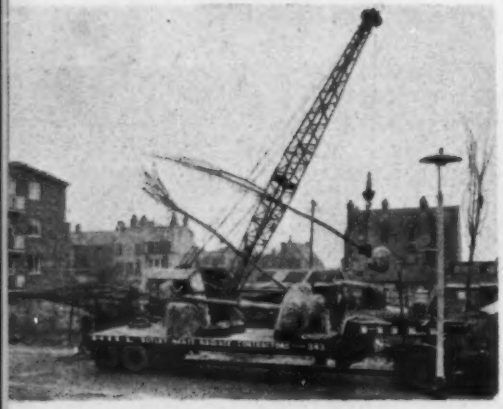
If there are not enough large trees on the site already, they are likely to think of planting some. And then they will run into difficulties. They will find that the supply situation is difficult; that moving large trees is expensive and that many horticulturists and even landscape architects are rather unenthusiastic. Many will say that it is safer to plant young saplings, ignoring the overwhelming evidence to the contrary.

It says much for the persistence of architects and their landscape consultants that so many large trees have been planted since the war. The arguments for their wider use and for the massed planting of shrubs and ground cover is that, at relatively small expense, compared with the cost of building, a whole twenty-year generation of users can be given a site which is adequately furnished, instead of having to grow up in the

Below, large trees planted in a new shopping centre at Zurich Altstetten. Note the Swiss method of using poles instead of guy wires and the fact that the trunks are wrapped to protect them against drought. Massed shrub planting has been used to increase the effect of solidity

Big Trees for Buildings

Deciduous trees with stems over 3in in diameter should be moved with their roots undisturbed and enclosed in a ball of earth. At least two seasons before moving, the roots are pruned by digging a trench all round, trimming the roots neatly into the shape of the subsequent earth-ball. Above, preparation and wrapping the earth-ball in canvas. Below, moving trees in Birmingham with a mobile crane from a loader. This is the method most commonly used in this country



landscape equivalent of a bare room. This twenty years is equivalent to the mortgage period of many private houses and is a third of the amortization period of local authority housing. Many buildings do not last longer than 60 to 80 years. Is it reasonable to leave them inadequately furnished for a third to a quarter of their whole lifespan with the ridiculous situation that many of the trees will just be coming into maturity when the buildings are being demolished.

There is the further very pertinent point that children and even adults take far greater care of public planting if it is well done and well maintained. The cost of half doing the job may, in the long run, be nearly as much as a proper scheme, if the cost of replacements and repair of damage and maltreatment is taken into account over the whole period.

The object of this article is to give the facts in the hope that greater knowledge will remove prejudice and lead eventually to a more widespread and greatly increased use of large trees.

The Tree's Point of View

A tree has two principal needs—water and light. The water is needed among other things to carry nutrients up from the soil to the farthest twig and leaf. Light is needed for the building up of sugars and starches in the leaves through the action of chlorophyll.

If the tree is to be healthy, the evaporation of water from the leaves and branches must be made up by a constant flow of water from the roots. The roots spread out from the tree in a shallow layer at least as wide as the spread of branches. In some species there are deeper roots, but their function is mainly that of anchoring the tree to the ground. The actual soaking up of soil water is done by the thin hair roots in the top soil.

The whole secret of moving large trees successfully is to preserve enough of these fine hair roots in working order to continue the supply of water and nutrients uninterrupted in the new position. Inevitably some roots will be lost and the aim should be to reduce the amount of evaporation to the same extent so that the balance is unimpaired. It is possible to reduce the amount of water needed by moving deciduous trees in the winter when they have lost their leaves and evaporation is much less. It is also possible to reduce it by pruning and by wrapping the trunk and larger branches in wet material, and by the use of chemical pore-sealing sprays.

Basically, however, the problem is to protect the roots. This is done by a special system of root pruning which is designed to induce the growth of a kind of basket of fine hair roots which enclose and hold together a ball of earth sufficiently small to be moved.

This is done by digging a trench two or three feet deep round the tree, leaving a ball of earth small enough to move subsequently and yet large enough to support an adequate root system. The tree side of the trench is undercut slightly and the coarse roots severed leaving enough of them to prevent the tree blowing over. The trench is then filled with a mixture of top soil and compost to encourage the development of a mat of fine hair roots. In the case of difficult trees or extra large specimens, only half a trench is dug at a time and the tree given one or more seasons to recover before the second half is cut. Another method, widely practiced in Switzerland, is to transplant the tree two or three times, trimming the roots each time.

In moving trees, it is important that the new situation should be reasonably similar to that in which the tree originally grew. It should, preferably, not be more adverse, either by reason of exposure to wind, a colder or wetter climate, or less adequate drainage. Generally, trees move more easily from a heavy soil to a lighter one than vice versa, which is unfortunate as most nurseries in this country are on light soils. Shallow-rooted species are easier to move than deep-rooted ones, but need more protection against subsequent drought. In general, shrubs are easier to move than trees, and deciduous species than evergreen.

The mechanical difficulties of moving large trees arise from the fact that the stem and branches are large and awkwardly shaped and relatively weak in a horizontal or inclined position, while the root ball is extremely heavy and liable to disintegrate. The problem is accentuated by the fact that the tree may be inconveniently large to move along the public highway and under bridges to its new position. The problem is simplified if the tree has only to be moved a short distance, as, for example, back from a road widening. In this case it may be possible to dig a trench and slide even large middle-aged trees back to their new position on rollers, or simply to lift the trees with large mobile cranes, as was done in the recent example at Nottingham, where thirty-six 65-year-old planes were successfully moved sideways to allow for widening the River Trent.

The Technique of Moving

Moving large trees is a job for specialists, and it is impossible, in a short space to give more than a brief outline of the operations involved.

The first and most important consideration is the choice of species suitable for use in a given situation, bearing in mind the adequacy of the space available to house the size the tree will ultimately grow to. It may, of course, be desirable to plant additional temporary trees and shrubs round the major trees to get an early effect and to remove these later when the major trees overshadow them.

Other factors which influence the

choice are the suitability of the species for a given subsoil, situation and micro-climate; whether they can be sure of sufficient subsoil moisture or sufficient drainage and, of course, the visual relationship of the planting at different stages of its growth to the neighbouring buildings.

The things to look for when choosing specimens are general shapeliness of habit; a good recent twig-growth with healthy, plump buds and firm bark free from mechanical injury, insects and diseases. The trees should have been properly root-pruned at least two years before and have a well-developed root system with hair roots all round, forming an earth-ball.

Season for Transplanting

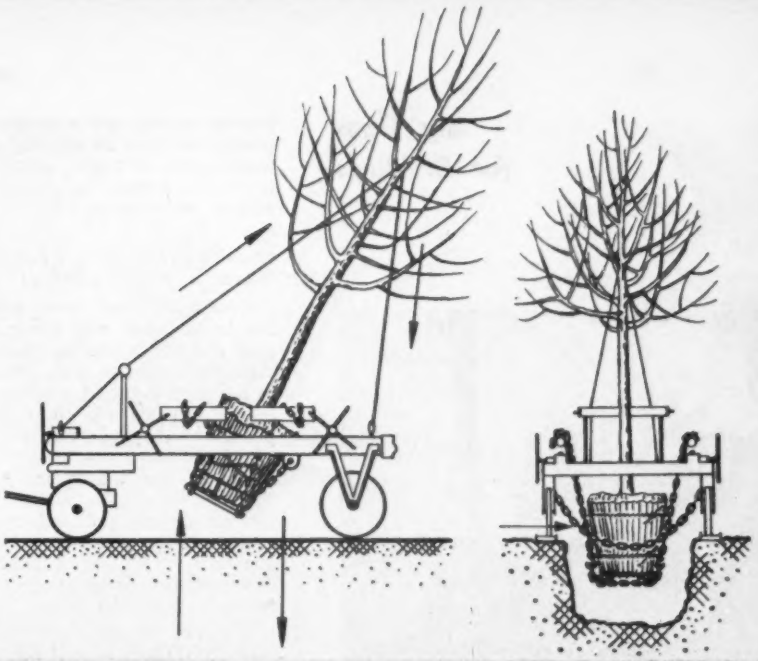
Many species can be moved at any time of the year, provided they have been specially prepared by caging the root ball so that there is no root disturbance, and are given suitable after-care. In practice, however, this is difficult to guarantee and trees are almost invariably moved during the dormant period, from November to March. The choice of time will depend on many circumstances, including site availability, weather, the programming of work at the nursery and the landscape contractor's programme of jobs. This often means that as the operation needs a good deal of pre-planning, the soil and weather conditions have to be chanced.

In theory, deciduous species should be planted in the autumn before the ground freezes, and evergreens in the spring when the ground begins to grow warmer. In practice, owing to the very variable weather we experience, all that can be said is that trees should be moved during the dormant period, which in a normal season is from the beginning of November until the end of February. If the soil is in a satisfactory condition, evergreens may be moved both earlier and later than this, but not during periods of hard weather or biting winds.

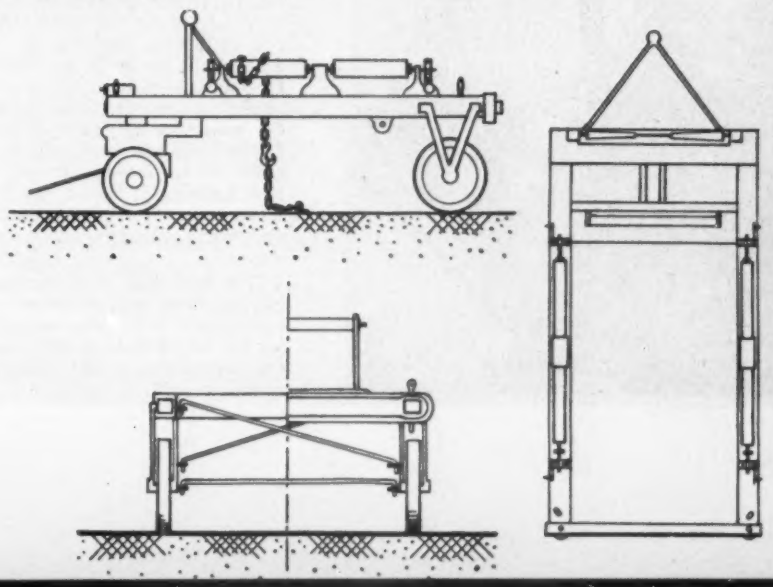
The moisture content of the soil and its temperature are more important that the date of moving. Early root growth needs a moist, but not too waterlogged soil, not colder than about 45 deg F for deciduous species and 60 deg F for evergreens. It is important that as much root growth as possible takes place before the beginning of summer dry periods.

Moving Small Trees

Most small deciduous trees up to 10 to 12ft high and with stems up to 3in in diameter and many shrublings can be moved with bare roots during the dormant period, provided the roots are kept moist. After digging a trench round the tree, the soil round the roots is carefully combed out with a narrow tined fork and the tree gently tipped over without forcing it. Tap roots should be cut as low as possible. The roots should be kept covered to



Top and below, a tree-moving "chariot" used in Paris. This type has been used, with modifications, continuously for over a hundred years. Above, a recent advertisement from "Canadian Homes" which is interesting not only as showing a method used there, but also as a forerunner of possible commercial developments in this country



Big Trees for Buildings

Two stages of moving a large tree as part of an avenue in a Zurich street. Above, a specially designed wagon supports the tree after unloading. The hole is prepared in advance, and in cold weather filled with straw to prevent freezing. Below, the tree and root-ball are lowered into place

prevent drying out and the tree replanted as soon as possible. A good local source of supply is very helpful, but in this country at present this can seldom be counted on.

Moving Larger Trees With a Ball of Earth

Deciduous trees with stems over 3in in diameter and evergreen trees and shrubs should be moved with their roots undisturbed and enclosed in a ball of earth. At least two seasons before moving, the roots should be pruned by digging a trench all round, trimming the roots neatly into the shape of the subsequent earth-ball. The trench should be filled with a mixture of top soil and compost to encourage the formation of a mat of fine hair roots. With difficult trees this operation can be done in two halves in following years.

The size of the earth-ball varies with the height of the tree, and its weight increases very rapidly with the larger trees. The depth of ball varies with the species, but is rarely more than 3ft. A certain amount of variation occurs in practice according to the species of the tree and the amount of root-pruning that has been carried out. The following table gives a guide to the sizes likely to be met with. It does not apply to taller trees such as poplars. For example, a 40 to 50ft high poplar might only have a 6 to 7ft ball.

Approx. height of tree	Diameter of stem 12in above ground	Diameter of earth-ball	Approximate weight
16ft	4in	3ft	12cwt
18ft	5in	4ft	1ton
20ft	6in	4ft-5ft	1-1¼ton
22ft	7in	4ft 6in-5ft 6in	1¼-2ton
24ft	8in	5ft-6ft	1¾-2½ton
26ft	9in	5ft 6in-6ft 6in	2-3½ton
28ft	10in	5ft 6in-7ft	2-3¾ton
30ft	11in	6ft-8ft	2¼-4½ton

Before digging is started, the branches should be tied in if the branches are low-growing. With tall trees it is often better to leave the tying in until the tree has been pulled over on its side. If the soil is dry it should be thoroughly watered all round at least two days before. When the sides of the earth-ball have been uncovered and trimmed to shape, it is necessary to cut the bottom free without disturbing the soil in the ball. Small balls up to 3ft in diameter can be undercut with spades and the ball gently pushed over from the side with the assistance of levers if necessary. Large balls can be cut by running a cable round the bottom of the ball and hooking it round itself so that when power is applied it cuts the soil and roots cleanly like a piece of cheese.

The earth-ball is then wrapped in canvas, laced with twine or rope and surrounded with a corset of boards for the larger sizes, running all round the circumference with planks underneath as well.

There are various ways of getting the ball out of the hole. Small balls can be lifted out by hand. Larger ones can either be slid up planks with hand or power winches or simply lifted out by crane onto the lorry. Medium-sized trees can be lifted by ropes tied to the stem using packing material to prevent bruising of the bark. Larger sizes have to be lifted by chains or cables round the ball itself.

In America balls over 4ft in diameter are generally lifted by specially designed tree movers, some of which are capable of moving trees up to 50ft high and with balls of 12ft in diameter. The Nottingham trees were about this size. They were moved with two ten-ton cranes synchronized to take the strain together.

The trees must be well protected during transit. There are three dangers: bruising of the branches through movement in the lorry or whipping in the wind; disintegration of the earth-ball and drying out of the ball or branches. Different nurserymen have their own methods of packing and roping. If possible light tarpaulins should be thrown over as much as possible of the tree to protect it, taking care not to break the smaller branches. The most disastrous thing to do is to jar the root-ball by dropping it. This will set up "shake", which will ultimately product a fault in the heartwood and end in heart rot or other diseases.

Planting

The tree can be unloaded by sliding it down planks into the hole or by a mobile crane. Specially designed wagons have for centuries been in use in this country and some are still to be seen at Kew. In Paris and Zürich, modern versions of these are still used in preference to other methods.

The hole should always be dug in advance, and in cold weather filled with straw to prevent freezing. It should be at least a foot wider all round than the earth-ball and should be deep enough to allow for any necessary drainage underneath, plus at least 6in of topsoil under the ball. The tree will settle a few inches and this should be allowed for. An inch or two of topsoil should be added over the ball.

It is vitally important that the hole should be well drained. Holes dug in heavy clay soils will quickly fill with water and it is useless to plant a tree in these conditions. The hole can be drained by laying an agricultural drain. The bottom of the hole should be sloped towards the outlet and covered with crushed stone or gravel. It is good practice to slope the bottom toward the perimeter and lay a tile drain all round.

It is better to plant the trees with the same orientation as before, and the south point should be marked on the bark before lifting. When the orientation must be changed for visual reasons, it is safer to wrap the stem

and major branches, particularly in the drier parts of the country.

The space round the ball should be filled with a mixture of topsoil and peat or compost with some sand if necessary. It is rarely sufficient to use the material excavated from the hole for this purpose, and when the tree is being planted in a reconstruction area in a town where there is virtually no normal soil, it may be necessary, athough expensive, to use more than the normal foot thick ring of top soil. The filling material should be ready in heaps at the side of the hole to avoid any unnecessary delay in planting. These heaps should also be protected against frost. The packing in of the material should be done very carefully to avoid damage to the roots and the formation of air pockets, which are very bad for subsequent growth. Bone meal is a good fertilizer for stimulating new root growth, and it should be lightly forked into the surface soil at the rate of 2oz per yard super.

Guying

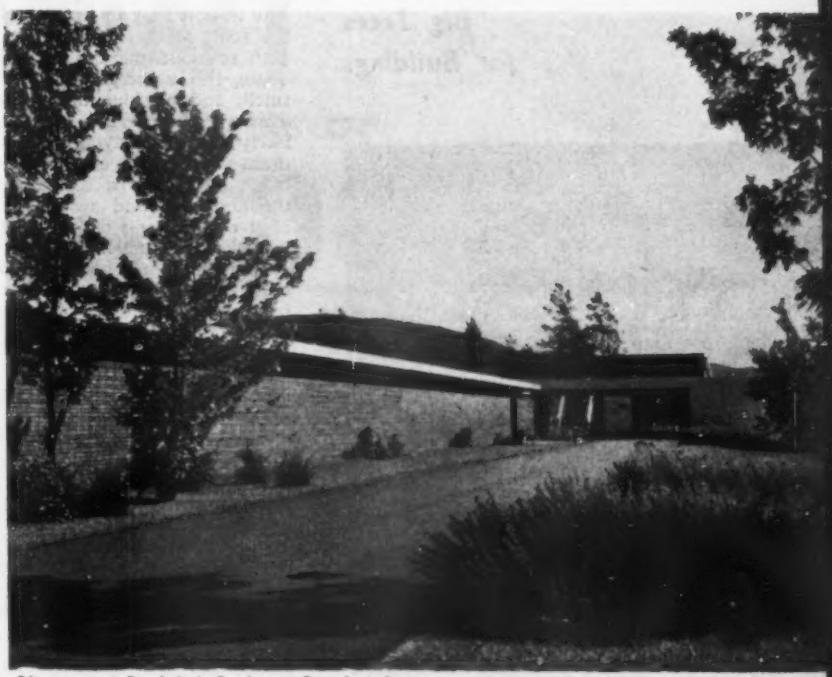
Although trees planted with an earth ball are much more stable than those planted with bare roots, guying is always advisable to prevent loosening of the roots and possible overturning in high winds. Three equidistant guys are normally used, with galvanized steel wire and adjustable turnbuckles. The guys are fixed to the stem about half-way up in a suitable position, just above a side branch. The wire should be carefully padded to avoid injury to the bark, and this should be inspected two or three times during the growing season. Wires are generally retained for three to four years. They should, of course, be placed in positions where there is no danger of people tripping over them. If this is unavoidable they should be well marked.

After Care

It is usually advisable to cover the ground round the tree with a layer of mulch for the first year or two in order to conserve moisture, equalize the temperature, and prevent weeds. In addition, in dry situations, the stem and main branches should be wrapped for the first two years with stout crepe paper or canvas tied round with cord. This protects the bark from sun and wind, and reduces the amount of evaporation. The tree should be well watered every four or five days in dry weather for the first two years.

If the trees have been properly root pruned, carefully dug out and transported and planted without the roots drying out, they should recover fairly rapidly. They may come into leaf a few weeks later the first year and the amount of new twig growth will almost certainly be less. After this, growth should be normal.

If several inches of new growth have not appeared by midsummer with a reasonable cover of healthy looking leaves, the roots should be checked.



Planting at St. Jakob Baths at Basel: above, acer dasycarpum about ten years old, three years after planting; below, twenty-year-old pinus sylvestris and ten-year-old acer dasycarpum three years after planting. Note the small flags marking the guy wires

Big Trees for Buildings

Two large trees planted in new housing estates in Birmingham. Above, acer campestre, below, acer platanoides

The trouble may be air pockets round the roots which may need repacking with soil. If the drainage is inadequate, this will be shown by a sour smell, and by blue or rotting roots. This may be difficult to treat, and is likely to involve laying an agricultural drain and possibly even replanting the tree. It should be remembered that the above ground symptoms of excessive water and lack of water may be indistinguishable.

If the tree has been wrapped, the bark underneath should be examined from time to time for pests and disease.

Shrubs and Ground Cover

Although this article is primarily concerned with large trees, it is impossible not to make a passing reference to the use of thick planting to get an immediate effect. The frontispiece shows the extra solidity that can be obtained, by the use of shrubs. Most of these are easier to plant than large trees, the earth balls being either small or unnecessary, and no guying being needed. As the result, the cost is much less per plant.

Nevertheless, a more lavish use of shrubs and ground cover plants will cost up to four times more than the size of plants and spacings generally adopted in this country. It should, however, be borne in mind that the cost of plants and planting is usually one of the smaller items in a landscape contract. The provision of top soil, especially in reconstruction areas, turfing and pavings, usually swallow up most of the landscape provision. Spending more on plants will give an immediate effect out of all proportion to the percentage increase in the total cost. In any case, the cost of landscaping is often far too low in relation to the total cost of building. It is surely foolish to take great pains to design first-class buildings and then spoil the whole effect by a cheeseparing policy on planting. In the case of schools and housing, the cost is likely to be more than repaid by the increased respect paid to it by the local inhabitants, with the resulting lower cost of maintenance. It is our attitude of mind to planting which needs to be changed. We should be no more willing to cut down on the planting than on the use of acceptable finishing materials.

The Future

The first and possibly the greatest obstacle to the greater use of large trees lies in people's minds. There is still in this country considerable opposition to the idea, based largely on prejudice and ignorance, the great days of Capability Brown and Repton have been forgotten, and we have the extraordinary situation that the very country which first started the idea should now be one of the most backward in moving large trees as part of a bold use of landscaping.

The prejudice is rationalized in two ways: the alleged unsuitability of the English climate and the check to the trees' growth during transplanting which is exaggerated out of all proportion, so that we are solemnly told that a twenty-year-old transplanted tree will quickly be overtaken in growth by a three-year-old sapling.

First of all the climate. The suggestion appears to be that our winters are so mild that growth is not arrested to the same extent as in countries with a continental climate. This is, of course, true, but there is no evidence that our mild, damp winters are in any way unsuitable for transplanting. In one important way they are an asset as there is less likelihood of drying out during and after moving. Drought is the greatest danger of all transplanting, and we rarely suffer from that, although drying winds in April and May are a danger.

Another objection that is sometimes made is that the long, cold spells on the Continent and in America allow the earth ball to be frozen solid for removal without the necessity for covering it with sacking and boards. While it is true that "frostballing" is used, and can lead to economies in moving, this is rarely an important factor in ordinary town planting, except possibly in cases such as in Warsaw, where large numbers of cheap trees were hauled short distances by tractor, in the large-scale reconstruction there.

The truth of the matter is that some hundreds of large trees have been successfully moved in this country during the last ten years, with a failure rate of considerably less than one in twenty. This contrasts with the very high proportion of failures with saplings due partly to lack of watering and partly to wanton damage by children, who seem to regard them as fair game, but who are daunted by larger specimens which are not so easy to break.

The second great obstacle is cost. A large tree, including transport and planting, costs at least £40, and may cost a good deal more, whereas a sapling usually costs less than a tenth of this. Even allowing for the considerably higher rate of losses with saplings, this difference is still sufficient in itself to restrict the demand. Until there is a greater demand, there will not be sufficient inducement for the nurseries to embark on a long-term planting programme.

There are a number of ways in which this vicious circle can be broken. Every large town should prepare a planting programme; that is, it should decide in advance the probable number of trees which will be needed for at least the next ten years, for parks, schools, housing and other new construction. It should see what local resources in its parks and in its own and private nurseries are likely to be available year by year. It should supplement these by the establishment of additional nurseries or make long-term arrangements with private growers. Having done this, it should

Continued on page 327

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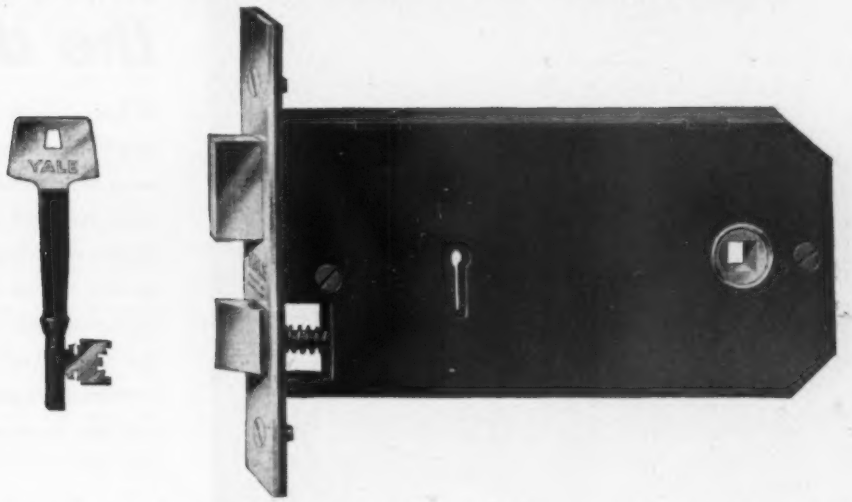
at a NEW LOW COST



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- **350 differs off levers (if required).**
- **3,500 differs available off levers *and* wards.**
- **Follower holes brass bushed.**
- **Forend—armoured brass upper and steel lower.**
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- **Key—in line with "contemporary" design, the key is light and attractive—of nickel-plated steel, with nylon-covered shank to give durability and self-lubrication at the point of contact with the lock. Conforms with British Standard 2088 ("Performance Tests for Locks": Tests 7c (II) and 7d).**

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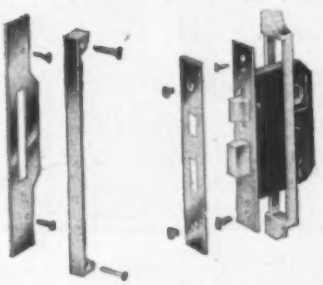
Master keying. The locks can be master keyed in suites to include sub-masters, sub-grand masters and grand masters . . . and because all differs come from levers alone, a greater degree of security is assured.

Literature. If you have not already received your copy of the booklet giving full specifications, write to the address below.



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plan for the second ten years. Growing trees is a long term business, and the only way to do it economically is to think in decades.

If this course is generally followed, there seems to be no reason why the cost of ordinary category A trees should not be very considerably reduced. The growth of a demand of this size would encourage the large-scale production of trees by the Forestry Commission, and private growers assisted by it. At the moment, the Forestry Commission appears to be totally uninterested, and concentrating on its primary function of growing timber. The commission does not know of any private growers who are interested in this large potential outlet.

An increased demand for ordinary town trees would not interfere with the demand for large specimen trees and shrubs. Indeed, it would almost certainly increase it.

The present rise in our standard of living and our preference for individual houses and gardens make it likely that a commercial tree planting service will eventually appear, similar to that advertised in the "Canadian Homes" (see page 232) and similar to the large-scale planting of new private housing estates in Swiss towns such as Zürich. It is almost certain that we are at the beginning of a great revival in public interest in the possibilities of landscaping. Whether the result will be well designed, or merely the landscape equivalent of subtopia is more than doubtful.

Sources of Information

ENGLAND

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FRANCE

"La Transplantation au Chariot", Service Technique des Parcs et Jardins de la Ville de Paris, 1953. "The Parks and Gardens of Paris", William Robinson, 1878. I am also indebted to the following for information: Robert Joffet, Conservateur en Chef des Jardins de Paris.

SWITZERLAND

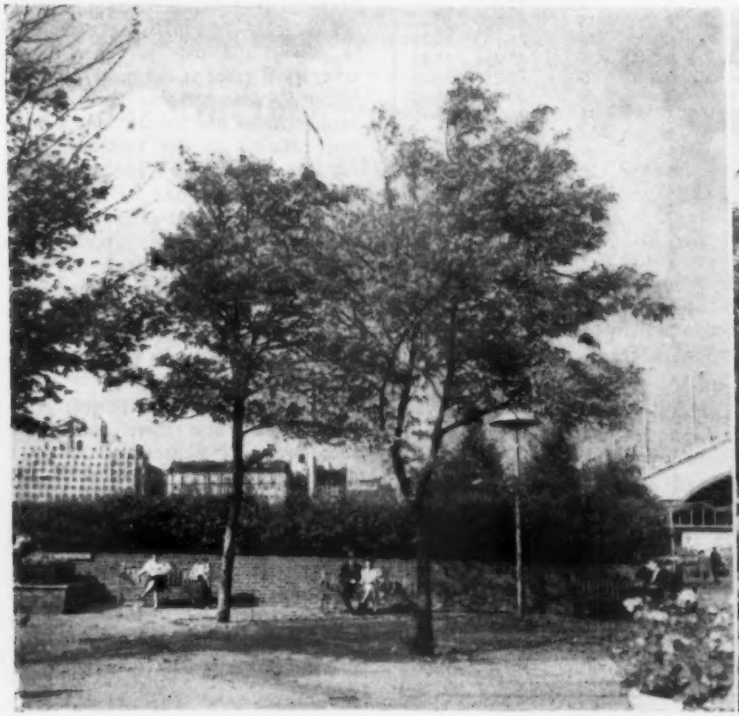
The following kindly provided information: Pierre Zbinden. Garteninspektor der Stadt Zurich. R. Arioli, Garteninspektor der Stadt Basel.

AMERICA

"Transplanting of Trees and Shrubs in the North Eastern and North Central United States". National Shade Tree Conference and National Arborist Association for the US Army Camouflage Branch. "Transplanting Trees and Other Woody Plants", US National Park Service.

Above, a third tree planted at Birmingham. This is the variety betula verrucosa. Below, large trees planted on the South Bank immediately after the Festival of Britain. They include acers and a group of robinia

Big Trees for Buildings



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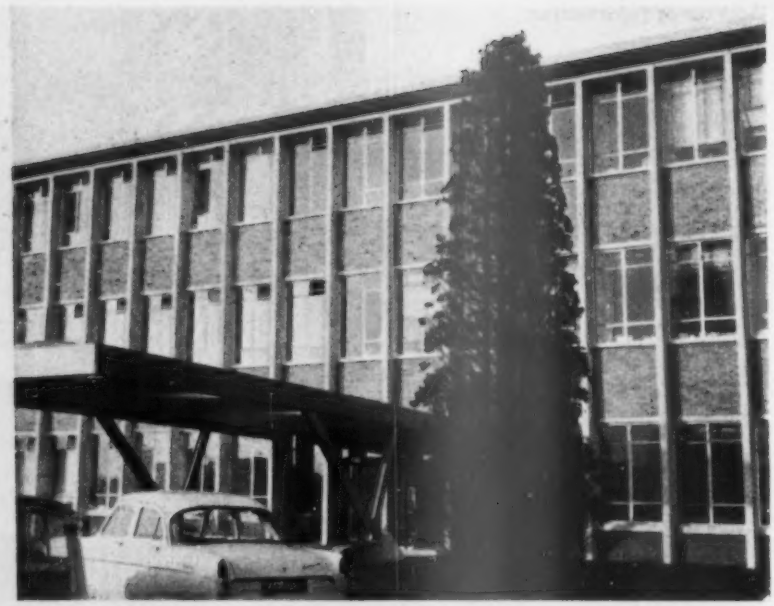
Big Trees for Buildings



Left, a Thuja planted at the A.P.V. factory at Crawley New Town. It weighed nine tons and was boxed in 9in by 3in timbers. For transportation it was jacked and winched onto a low loader at an angle of 30 deg to avoid overhead obstructions

List of Trees

Species of Tree		Ease of trans-planting	Economic Maximum Height for moving	Ultimate height	Ultimate spread
Acer griseum	Paperbark Maple	A	15	30-35	20-25
Acer platanoides	Norway Maple	A	20	60-70	40-50
Acer saccharinum	Silver Maple	A	20	50-80	35-60
Aesculus carnea	Red Horse Chestnut	A	15	30-50	25-40
Aesculus indica	Indian Horse Chestnut	A	15	50-80	45-55
Aesculus hippocastanum	Horse Chestnut	A	20	80-100	50-70
Ailanthus glandulosa	Tree of Heaven	A	20	50-80	35-50
Alnus glutinosa	Common Alder	A	25	60-70	35-45
Alnus incana	Grey Alder	A	20	60-70	35-45
Betula verrucosa	Silver Birch	C	15	50-70	25-35
Carpinus betulus	Hornbeam	C	15	50-70	50-60
Catalpa bignoniodes	Indian Bean	A	20	25-50	25-50
Cedrus atlantica glauca	Atlas Cedar	B	15	75-120	55-70
Chamaecyparis lawsoniana	Lawson's Cypress	C	10	75-100	20-25
Crataegus crus-galli	Cockspur Thorn	B	10	15-25	15-25
Crataegus monogyna	Hawthorn	B	10	15-25	15-25
Fraxinus excelsior	Ash	A	20	30-80	25-60
Fraxinus ornus	Manna Ash	A	15	40-65	35-40
Gingko biloba	Maidenhair Tree	B	15	50-80	35-45
Liquidambar styraciflua	Sweet Gum	B	20	50-75	35-50
Liriodendron tulipifera	Tulip Tree	B	20	75-120	35-50
Malus floribunda	Flowering Crab	A	10	20-30	20-25
Platanus acerifolia	London Plane	A	20	70-100	50-70
Populus alba	White Poplar	A	25	60-100	45-70
Populus nigra italica	Lombardy Poplar	A	25	70-120	20-25
Prunus avium	Native Cherry	A	15	60-70	35-40
Prunus communis	Almond	B	10	15-20	15-20
Prunus padus	Bird Cherry	A	15	20-30	15-25
Prunus sargentii	Sargent's Cherry	A	15	25-35	18-25
Prunus subhirtella	Autumn Cherry	A	10	20-25	25-30
Prunus yedoensis	Yoshino Cherry	A	15	20-30	30-40
Pyrus salicifolia	Willow-leaved Pear	A	10	30-45	25-35
Quercus cerris	Turkey Oak	B	15	60-70	50-60
Quercus coccinea	Scarlet Oak	B	15	70-80	50-60
Quercus rubra	Red Oak	B	15	60-80	50-70
Robinia pseudoacacia	Acacia	A	15	60-80	40-50
Salix coerulea	Cricket Bat Willow	A	20	50-70	30-35
Salix babylonica	Weeping Willow	A	20	30-50	25-45
Sorbus aria	Whitebeam	A	15	30-40	20-30
Sorbus aucuparia	Mountain Ash or Rowan	A	15	20-30	15-25
Taxodium distichum	Swamp Cypress	B	15	50-120	20-25
Taxus baccata	Yew	A	15	30-60	40-60
Tilia euchlora	Lime	A	20	50-60	20-40
Tilia petiolaris	Pendent Silver Lime	A	20	40-50	30-40
Tilia platyphyllos	Red Twigged Lime	A	20	60-80	40-60
Ulmus glabra	Wych Elm	A	20	60-80	50-70
Ulmus procera	Elm	A	20	80-120	50-60

The list shown on the left is confined to trees which are suitable for use in towns and are known to be easy to move. It does not pretend to be exhaustive but it can be used as a guide to closely related trees. Ease of moving goes by species and it is safe to assume, for example, that all acers and all populus are category A (that is the easiest of all to move) and that all quercus are category B (that is not quite so easy). Relatively few category C trees have been included and the list may well be over cautious in this respect. Trees such as beech and Scots pine, which have a bad reputation for moving and which do not like a smoky atmosphere, may only need more experience in moving and cleaner air to be very successful. It is significant that Scots pine up to 20 years old are moved in large numbers in Switzerland with very few failures and are, in fact, one of the cheapest trees there.

The economic maximum heights given for moving are also rather cautious and trees have in some cases been moved up to twice the heights shown. A 30ft height is common. However, the cost with present-day equipment mounts very rapidly with extra height and moving really large trees can only be justified in special circumstances. The ultimate height and spread of each tree is compiled from various authorities and will vary considerably with the situation

ELECTRIC FLOOR-WARMING

INFORMATION SHEET 1

Graiseley Estate, Wolverhampton · Designed by the Architects of the Borough Engineer's Department.
Electrical contractor · Williams Brothers (Electrical) Ltd.

Electric floor-warming simplifies planning in 599 apartments in five different-size buildings

Ideal comfort heating Each apartment on this all-electric estate of 2, 3 and 8 storey flats, and 4 storey maisonettes, has a 'withdrawable' system of electric floor-warming installed in the living room, kitchen and hall, designed to give constant background warmth. Supplementary heating is provided by 2 kW panel fires in the living rooms.

Planning is simplified Inside the apartment: complete elimination of fireplaces, flues, and chimney breasts. No radiators or pipes mar the rooms. Outside the apartment: no boilerhouse, chimneys, fuel stores, pipe trenches, or fuel storage spaces.

These features make electric floor-warming attractive from the housing authority's point of view.

Economy Electric floor-warming is cheap to install, economical to run. It uses cheap 'off-peak' electricity; is tenant controlled. It is popular with tenants who appreciate comfort at reasonable cost.

No labour involved All chores connected with fuel handling are done away with. No fuel is needed in the apartment or on the site. There is less work for the housewife, and no need for boiler-room staff. Here then is an estate, an all-electric estate, where electricity supplies not only the water heating, cooking, lighting and all the power requirements of the tenants, but the space heating as well.

On the Graiseley Estate, they chose electric floor-warming. Now the tenants are reaping the benefits.

If you are thinking of installing electric floor warming, ask your Electricity Board for details.

Issued by the Electrical Development Association, 2 Savoy Hill, London, W.C.2.

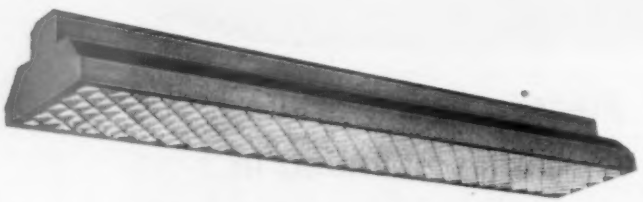
THIS MANUAL WILL HELP SOLVE YOUR PROBLEMS

Stonhard Company Ltd

BERGER HOUSE, BERKELEY SQUARE, LONDON, W.1.

Telephone: MAYfair 4641.

Designers and Manufacturers of Fluorescent Lighting Fittings for Industrial, Commercial and Decorative purposes



PRICES: 5ft 80W single Hampshire £9.10.0
5ft 80W twin Hampshire £13.0.0

May we have the pleasure of sending you the Horsell Catalogue showing full range of designs with details and prices?

HORSELL

LIGHTING FITTINGS

(HORSELL ELECTRICS LTD)

The HAMPSHIRE

A 5ft industrial trough with a full length gear box and closed ends. The plastic louvred base makes this fitting most suitable for use where screening of the tubes from the sides is required.

1a 3a & 5a CHARLWOOD STREET, WESTMINSTER, S.W.1. *VICtoria 2563-6519-1784*

Industrial Notes

● An agreement has been concluded between Esso Petroleum Co. Ltd. and I.C.I. Ltd. for the supply of ethylene direct from the Esso Refinery at Fawley, to the new Severnside works of I.C.I., in South Gloucestershire. This will involve the laying of a 70 mile pipeline between Fawley and Severnside at an estimated cost of about £800,000 and permission is now being sought from the appropriate authorities. It is also proposed to extend the £10,000,000 chemicals plant at Fawley by the investment of an additional £5,500,000. This extension will include another steam cracker, which should be completed by next year.

● H.R.H. The Duke of Edinburgh is to visit the Hounslow factory of Concrete Ltd. on Wednesday, March 16, 1960, when he will inspect the works and stay to luncheon.

● The title of Home Heating and Winter Comfort Exhibition has been given to the first national exhibition in the field of domestic heating which is to be held in London, from August 19 to 25, at the Royal Horticultural Society's new hall. The exhibition is a trade show, as well as a public exhibition, and is being organized by Specialised Exhibitions Ltd., of 22 Half Moon Street, London, W.1 (telephone: Grosvenor 4503).

● The London sales office of the Bartrev Board Co. Ltd. has been transferred to a new address at 5 St. James's Place, London, S.W.1 (telephone: Grosvenor 2415/6).

● The Hall—Thermotank Group show a net profit, after taxation, of £262.237 for the year ended September 30, 1959, compared with the previous year's result of £379,678. A final dividend of 5¼d has been recommended on the ordinary shares of 5s, making a total distribution of 6d per share for the year.

● The small bore central heating system specially designed for solid fuel will be the main feature of the C.U.C.'s display at the forthcoming *Daily Express* Brighter Homes Exhibition, which is to be held at the City Hall, Manchester, from March 15 to April 2.

● Expandite Adhesives Ltd., a subsidiary company within the Expandite Group, has been formed to manufacture and market a range of adhesives for the building industry and other industries. Directors of the new company are: T. Pooley (chairman), G. Bussey (managing director), A. Cathcart, Dr. J. Bowler Reed, and Mr. J. W. Bolton (secretary). The company will operate from office and factory premises at Birchley Street, St. Helens, Lancs (telephone: St. Helens 7376).

● Her Majesty Queen Elizabeth the Queen Mother has granted the Royal Warrant to Trianco Ltd., of Imber Court, East Molesey, Surrey, as manufacturers of domestic boilers.

● Moss Partners (London) Ltd., manufacturers of Gold Seal wood office furniture, have appointed Mr. R. A. Neesham as their sales manager. His appointment will rate from April 1, 1960, and he will succeed Mr. L. A. Sampson, who is leaving the company.

● The directors of Electrical Components (Holdings) Ltd. have declared an interim dividend of 4 per cent (less income tax) on their ordinary shares, and this will be payable on March 11, 1960.

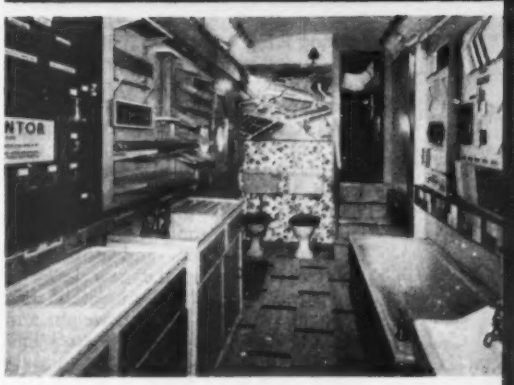
● Sir Halford Reddish, F.C.A., chairman and managing director of the Rugby Portland Cement Co. Ltd., has accepted an invitation to address the Graduate School of Business Administration of Harvard University, U.S.A., during this month.

● The Cunard R.M.S. *Saxonia* recently had her main condenser outlet boxes repainted with Jenson & Nicholson's Debecote. This specially compounded cement coating dries to a very hard surface and expands or contracts freely under extremes of temperature without danger of premature film rupture. It is stated to be resistant to most chemical reactions as well as to corrosion and to be particularly suitable for the protection of ships' propellers, rudders, stern plates and fresh-water tanks.

● Electrolux Ltd. have appointed Mr. Robert J. Mant to their general sales manager's staff at the company's head office in London. His successor as deputy divisional manager is Mr. Ronald D. Lewis, formerly an area manager of the London division.

CORRECTION.

Stonite White Spatter Finish and not White Tyrolean was the rendering used on the shops, two-storey terrace houses and three-storey houses referred to on page 435, in the A. & B.N., of 11.11.59.



MOBILE SHOWROOM

This mobile showroom has been produced to enable the Metal Agencies Co. Ltd., of Bristol, to display their products to customers in outer areas. It consists of an articulated caravan of the Coventry Knight type, mounted on a Tasker chassis. Interior illumination is by fluorescent lighting, heating by Calor gas convectors and ventilation by Vent-Axia fan extractors. Fitments and display panels can be changed periodically and the decoration includes many decorative boards and laminates. Displays include bathroom suites, kitchen fitments, roof lighting, shelving and grip and lever furniture. There is a cocktail and reception lounge adjacent to the showroom. The internal layout was arranged by Roy Beecroft & Partners, architects, of Bristol, who were also consulted over the caravan proper during its construction. Invitations to view the showroom will be issued to architects and public authorities in the various towns which will be visited as time goes on

NEW PRODUCTS

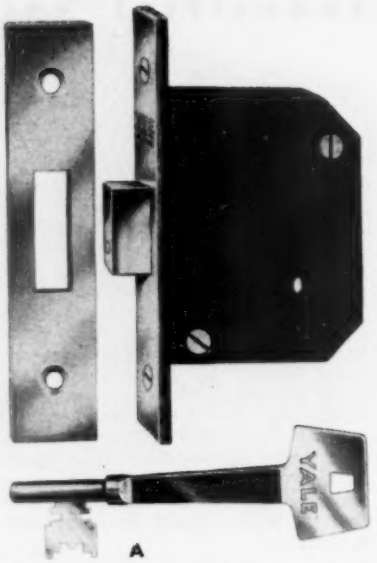
In this feature are reviewed new lines introduced to the building industry for the first time and additions or improvements to existing ones. Any advantages claimed for a product are from information supplied by the manufacturer

New Mortise Locks (A)

A new series of three-lever mortise locks, known as the Yale M900 range, has just been introduced. The object of this is to provide a higher degree of security in a low-cost lock range. It offers 144 differs, off levers only, as standard, but if required, 350 differs can be obtained off levers. By the introduction of wards, 3,500 differs are obtainable. The range includes all the four basic types of mortise locks: an upright lock, a horizontal lock, a deadlock and a sliding door locking latch. These are all furnished with brass bushed follower holes and the complete range covers seven locks in a variety of finishes. All the locks in the range can be master-keyed and all suites are available with sub-master, sub-grand master and grand masters. When master-keyed, standard differs are up to 66 per suite off levers only or up to 660 per suite off levers and wards. A notable feature of the new locks is that the key is of a completely new design. It is very light in weight and is made from nickel plated steel and has a nylon covered shank which gives added durability since it is self-lubricating when the key enters the lock. At the same time, the company is introducing a range of reversible rebated forend sets which are completely reversible for left or right hand, inward or outward opening doors and fit the locks and deadlocks in the new range. Complete M900 range consists of M901, a 2½in or 3in upright or sash mortise lock, M902, a 5in or 6in horizontal mortise lock, M903 (illustration), a 2¾in or 3in mortise deadlock, and M904, a 3in hook bolt mortise locking latch. Standard finish of all exposed parts of all these locks is polished brass but other finishes can be supplied such as chrome plate, satin chrome plate, Florentine bronze and imitation BMA. All locks conform with the performance specification of B.S. 2088:1954 and were applicable with the dimensional specification of B.S. 455:1957.

Yale & Towne Manufacturing Co., Willenhall, Staffs.

Readers' Information Service, Ref. A. Date 9/3/60.



A

★

Portable Hand Embosser (B)

A portable hand embossing machine known as the "Midgie" has been introduced. It will emboss letters and numbers on hardwearing, corrosive and chemical resisting Vinyl red plastic tape which has a pressure sensitive adhesive backing for application to most smooth and clean surfaces. The plastic labelling is self feeding and it is only necessary to dial the letter or number required and then to squeeze the handle, after which the final label can then be cut off. The machine is 10½in long and the tape is ½in wide by 12ft long. The embossed letters, which are permanent, are 5/32in type size. The makers consider that the labels produced by this machine should be suitable for identification of raw materials and parts stored in outside areas, for labelling panel boards, chemicals, tools, electrical parts, instruments, furniture and many other applications. The machine is finished in chromium plate. Price £12 10s.

British Automatic Co., 14 *Appold Street, E.C.2.*

Readers' Information Service, Ref. B. Date 9/3/60.

B

★

Improved Trimming Knife (C)

Four new features have been incorporated in an improved version of the Stanley trimming knife. A wider selection of blades, giving the knife greater versatility, is carried in the handle together with the blade guard. There are three normal duty blades, one heavy duty blade and one hooked blade instead of five normal duty blades previously supplied. The alloy handle is slightly heavier in the new model so as to make the knife surer and steadier in the hand. There is a hole through the handle to that the knife can be hung up, and a new captive securing screw. All blades are double-ended and the knife is available in a variety of colours. Price: 6s; normal duty blades, 2s for five; heavy-duty and hooked blades, 2s 6d for five.

Stanley Works (G.B.) Ltd., Rutland Road, Sheffield, 3.

Readers' Information Service, Ref. C. Date 9/3/60.

C

★

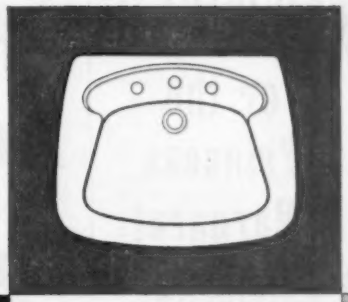
Interior Lining Board

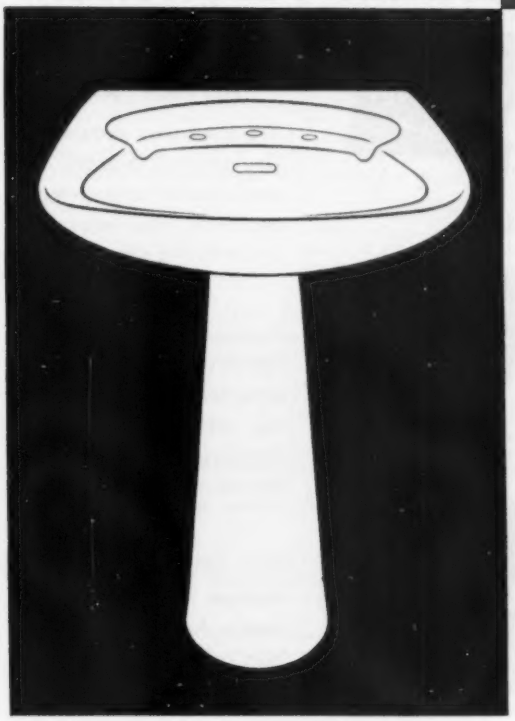
The new Limpet board is a compressed material with a high asbestos content and is designed as an interior lining for walls and ceilings of offices, shops, corridors, entrance halls etc. It is claimed to be incombustible and to conform with the requirements of BSS 476: 1953 Fire Tests on Building Materials and Structures (Part I) Class I. Its makers anticipate that it will be used extensively in the building and allied industries, in rail and road vehicle construction and in shipbuilding. It requires no special fixing and can easily be worked by normal woodworking tools. In addition it is stated to be hardwearing and unaffected by humidity and climatic changes. Limpet board is flexible and can be curved to a radius of approximately 12in. It can be primed by using an alkali resistant primer and is then ready for painting. Density: 95lb/cu ft. Modulus of rupture: 7,000 lb/sq in. Breaking load: 39lb. Water absorption: 18·2 per cent (mean). K value: 2·24. Standard sheet sizes: 10ft and 8ft long by 4ft wide by ¼in thick.

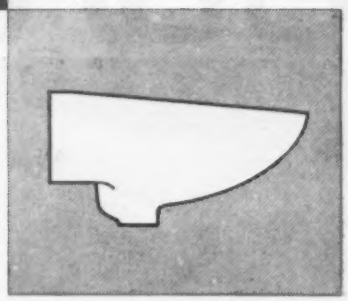
J. W. Roberts Ltd., Chorley New Road, Horwich, Bolton, Lancs.

Readers' Information Service, Ref. D. Date 9/3/60.

design







material

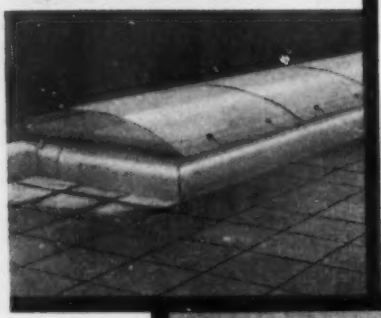
Beneath the design form of the 'Standard' Kingston lavatory basin is the firm foundation of 'Standard' vitreous china—a non-porous material. Even without the glaze it cannot absorb moisture. So no water can enter the body material and, by swelling it, craze the glaze. This means that 'Standard' vitreous china is always completely clean and hygienic. And it has great strength and resistance to damage. Specify 'Standard' vitreous china and you specify fine design in the right material.

vitreous china by **Standard**

441

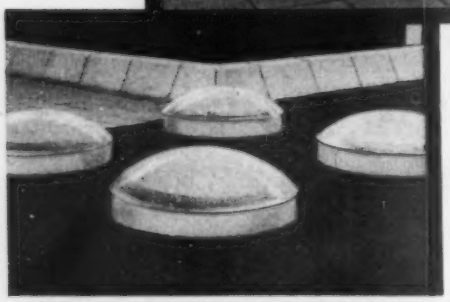
MANUFACTURED BY IDEAL BOILERS & RADIATORS LIMITED · IDEAL WORKS · HULL

COX DOMES For the Princess Margaret Hospital Swindon



Purpose-made continuous barrel roof lights with full vision fabricated ends. This is the latest Cox roof light, specially designed for the Princess Margaret Hospital.

Standard rectangular Cox Domes



Standard circular Cox Domes

Architects: Powell & Moya, F./F.R.I.B.A., in association with W. J. Jobson (Regional Architect, Oxford Regional Hospital Board).
Main Contractors: W. E. Chivers & Sons Ltd.

COX Domes for Added Light.

Virtually unbreakable, these roof lights are available in circular, square or rectangular shapes in either clear "Perspex" (which has a light transmission of 92 per cent as against 80 per cent for glass), or in diffused opal for privacy and anti-glare.

Williaam J. COX (SALES) Ltd.

"PERSPEX" FABRICATORS AND SHAPERS
(A.I.D. approved No. 3676/42)
559/561 Holloway Road, London, N.19. Tel.: ARChway 1174/75

PLYCOMOR

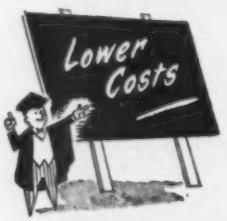
IMPROVED

MORTAR PLASTICISER

GIVES THESE ADVANTAGES

The controlled entraining of air imparts a 'buttery' consistency, even to harsh mixes, improving their workability and reducing droppings.

Plycomor mixes hold water against the suction of absorbent surfaces, improving adhesion, decreasing shrinkage and reducing the risk of cracking.



The elimination of lime reduces efflorescence, and lowers handling and transport costs.

Plycomor mixes require less trowelling and floating.

For Bricklaying and Pointing, External and Internal Renderings, Floor Screeds and Toppings, Concrete Flat Roofs, Pre-cast Products

A PRODUCT OF THE I.B.E. GROUP

BRITISH BITUMEN EMULSIONS LTD

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Deeside, Saltney, Nr. Chester. Tel: Chester 23128
20 Maukinfauld Road, Glasgow, E.2. Tel: Bridgeton 2791
91a Lower Ashley Road, Bristol 2. Tel: Bristol 51380

Send request form for details

Name .....
Firm .....
Address .....
(A.B.N.P.2.)

CURRENT MEASURED RATES (LONDON)

These apply to new work of normal character and some size. These rates are for time and materials only and carry 10 per cent in excess, so the appropriate essential on-costs should be added. The basis cost of material used in the calculation of these prices is taken from the foregoing tables which carried up to March 9, 1960.

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ESSENTIAL ON-COSTS

Fees payable to L.C.C. for District Surveyor:

The new buildings of ordinary construction not exceeding 5,000 cubic feet	£3
Over 5,000 cubic feet for every extra 1,000 cubic feet up to 1,000 cubic feet add	4/–
Buildings over four storeys add 3*d* per 1,000 cubic feet extra for each storey up to eight	3*d*

ALTERATIONS AND ADDITIONS

Up to £100 cost		£3
Over £100 up to £1,000—	Per £100 cost	15/–
Over £1,000 up to £5,000	Ditto	5/–
Over £5,000	Ditto	3/–
Public buildings add 50%		
Steel framed or R.C. buildings.—See L.C.C. (General Powers Act 1955) also fees in respect of means of escape in case of fire.		

Allowance to cover National Insurances, Holidays with Pay and Public Holidays, Welfare, Third Party Risk, Travelling and Guaranteed Week is made in the rates attached to the items.

Allow for Fire Insurance	1/6%
Allow for Water for use on the works and apparatus	5/–%
Allow for hoarding, or similar licences in City of London	say £10
Do., under Borough Councils per each month	say 2/6
Allow for Office, Fire, Attendance on C. of W., etc. p. week	say 30/–

ADMINISTRATION AND CONTROL

Percentage costs on normal contracts in accordance with Builders Turnover per Annum, see appropriate column hereunder:

	Turnover in Thousands			
Place	25	50	75	100
At depot	13%	9%	7%	6%
On job	6%	5½%	4½%	4%

SPOT ITEMS AND DEMOLITION, ETC.

	Per ft run
Hoarding erected and removed	20/–
Planked gangway with handrail, etc. do.	10/–
Proper gantry do.	78/–
Sleeper roadways	16/6
Needling, strutting and shoring including all labours and use and waste in erection and removal	Per ft cube 20/–

ALTERATION-DEMOLITION—	1 Brick	1½ Brick	2 Brick	Per yard cube
	(Per ft super)			
Cutting out cement concrete or brickwork in small quantities	1/3	2/6	3/7	64/–
Do. if either in very small quantities or reinforced	2/2	4/1	6/–	95/–
Debris into baskets and removed from inside to outside of bldg.	3½*d*	7*d*	9*d*	14/–

SCAFFOLDING (Avg. 45ft high) Per yard superficial	Period 1 month	3 months	5 months
Putlog type—4ft 6in lift	8/–	10/6	13/6
Do. —6ft 0in do.	5/6	8/–	10/6
Independent type—4ft 6in lift	10/6	14/6	19/–
Do. —6ft 0in do.	7/6	10/6	13/–

EXCAVATION Per Yard Cube *By hand*	Common Soil	Loamy Clay	Gravel or Clay	Rock or similar
Reducing levels	7/6	8/10	10/3	68/–
Surface trench not exceeding 5ft deep	14/10	17/8	23/7	84/–
Do. from 5ft to 10ft	27/–	30/4	36/4	91/6
Do. from 10ft to 15ft	30/9	36/7	42/11	100/–
Fill in and ram	6/–	6/7	6/7	6/5
Barrowing 25yd	3/3	3/7	3/7	4/2
Load vehicles and tip 8 miles away	18/9	18/9	19/9	20/7

PLANK AND STRUT	To 5ft deep	5 to 10ft deep	10 to 15ft deep
To trenches, in normal ground	7*d*	8½*d*	10*d*
Per Ft Super			

CONCRETE 1½in Ballast Aggregate	Per yard cube
1 : 3 : 6 Cement concrete in foundations	79/6
Do. around grillages	82/6

REINFORCED CONCRETE

1 : 2 : 4—¾in concrete, worked around reinforcement, between formwork in the following (at various levels):—Per cubic yard	
Foundations and surface beds	89/3
Walls, 12in thick or more	95/6

Sectional inches	Lintols and beams	Columns and casings	Braces and projections	
Up to 36	4/7	5/2	5/4	Per cubic ft
36 to 72	4/8	5/–	5/2	do.
72 to 144	4/5	4/11	5/1	do.
over 144	4/3	4/10	5/–	do.
Walls 6in thick			17/11	Per super yd
Do. 9in thick			29/–	do.
Suspended floors average 6in thick			19/7	do.

REINFORCING RODS (round) bent and placed. (Ex Mills)— Per cwt.	¼in	⅜in	½in	⅝ to 1in
In floors and beams	92/–	80/–	75/9	67/6
In walls	98/–	85/–	79/9	70/6
In columns	105/6	90/3	81/–	73/9

FORMWORK and Supports (4 times use)— Floor soffits	Beams	Walls	Columns
20/3 per yard	3/–	2/8	2/8 per super ft

BRICKWORK

BRICKWORK per YARD superficial reduced to ONE BRICK in thickness (scaffold to add)—	In 1 : 3 cement mortar
Flettons or other similar *at* 118/– per 1,000	42/–
Mild Stocks or do., *at* 253/– per 1,000	60/–
Second Stocks or do., *at* 336/– per 1,000	66/8
Southwater engineering or similar bricks, *at* 400/6 per 1,000	78/–
Blue Staffordshire wire cut *at* 542/6 per 1,000	94/3
Deduct if 1 : 1 : 6 Cement-Lime mortar is used in lieu of 1 : 3 Portland Cement mortar	2*d*
Add if brickwork commences above ground level	4/9
Do. if in backing to masonry including cutting and waste for bonding	3/10
Do. If circular-on-plan	9/–
Do. If in underpinning	9/–

BRICKWORK IN THICKNESS NOT REDUCED— Per yard superficial	Brick, on edge walls	Half-Brick walls	1 Brick finished fair both sides	11in Hollow with 2in cavity and G.I. TIES
In Flettons or similar	18/3	23/4	43/1	49/3
In second stocks or do.	31/3	41/4	74/–	73/–
Add: for pointing as work proceeds, per side	1/9	1/11	1/9	1/9
Thickness to old walls, including cutting, toothing and bonding to same an average total thickness of ¾ brick	Fletton 57/–		72/–	Stock per yd super
Do. all as last but an average total thickness of 1¼ bricks	78/–		102/6	do.

WALLS BUILT IN SUPERIOR BRICKS— In 1 : 3 Cement mortar, fair faced and pointed on both sides as the work proceeds:—	Half-Brick	One Brick	
In first-quality Stocks at 367/–	45/–	75/–	Per yd super
In red facings at 330/–	38/6	67/9	do.
In blue pressed facings at 604/–	60/–	104/9	do.

GENERAL AND SUNDRY

Cut tooth and bond new brickwork to old		5/9 per ft
Damp-proof course, double slate, horizontal		4/9 super
Do., as last, but vertical		5/9 do.
Do., bitumen, Hessian base, horizontal		1/– do.
Frames, bed and point in cement mortar, one side		4½*d* per ft run
Window board of 6in by 6in by ⅞in rounded on edge quarry tiles, bedded, pointed, cut and fitted		4/3 do.
Terra-cotta air bricks built in and pointed, including flue	9in by 6in 6/6	9in by 9in 11/6 each
Chimney pots, plain red, set and flaunched in cement mortar	1ft high 17/–	2ft high 24/– each
Metal windows, assembled, hoisted and fixed, lugs cut and pinned and frames bedded and pointed one side in cement mortar	Up to 5ft super 15/2	5ft to 10ft super 18/9 each
	10ft to 20ft super 28/5	20ft to 40ft super 47/– each
Leaving holes through walls for pipes and afterwards making good	Small pipes 3*d* per in depth	Large pipes 6*d* per in depth
Cutting do., and afterwards to	11*d* do.	2/– do.
Cut mortices in brickwork or concrete for bolts or dowels and run in with cement grout		1/3 per in in depth, each
Holdfasts of stout iron hoop bent, holed and screwed to frame and built in		1/7 each

MEASURED RATES—*Continued*

BRICKWORK—*Continued*

FACING—

Extra only over common brickwork (118/- per 1,000) for facing with superior bricks in *Flemish bond* and pointing as the work proceeds.

Rustic Flettons (150/-)	4/2 per yd super
White (220/-)	9/9 do.
First Stocks (367/-)	21/- do.
Reds (350/-)	19/3 do.
Blue pressed (604/-)	38/3 do.

If built in English bond, *Add* 12½% to above.
If do., half-brick stretcher bond, *Less* 25% off above.

COPING—

All labour and material in forming brick-on-edge coping with two course of roofing tiles under and cement weather fillets on both sides, built in cement and pointed as the work proceeds.

Per ft run	9in thick	14in thick
In picked Flettons	6/3	8/5
In first-quality Stocks	8/-	12/-
In red facings	7/5	11/11

Plumbing angles	2*d* per ft run
Fair cutting	1/- do.
Fair rake cutting	1/7 do.
Fair circular cutting	1/7 do.
Fair squint or birdsmouth	1/11 do.

ARCHES

Extra over Fletton brickwork for forming window head with red facing bricks set on end and with 4½in soffits and pointing	ft run 3/9
Do. for rubbed and gauged flat arch in red rubbers set in putty with fine joints	ft super 19/-

PARTITIONS

(75 yards)	Per yd super— 2in	2½in	3in
Concrete slab partitions in cement mortar	11/5	13/8	14/8
Hollow clay do.	13/5	15/6	18/-
Cutting and bonding at angles, intersections and ends	5*d* ft run		

PAVING	1in	1½in	1½in
Grano trowelled gauge 5 : 2	8/6	9/6	10/8 yd super
1 by 5in skirting, square top and cove bottom			2/10 ft run
½in by 6in red quarry tile paving			32/- yd super
½in by 6in do. skirting			1/11 ft run
Jointless flooring, ½in thick			20/- yd super

ASPHALT (normal conditions for 200 yds super and upwards)

	B.S. 1450/48	B.S. 1375/47	
⅝in pitch mastic floor in one coat on felt underlay on prepared concrete base		Brown	Red
Per yd super	13/6	15/-	16/6
	Unit	Mastic B.S.988	Natural Rock B.S.S.1162/44
⅜in in two thicknesses on felt underlay on prepared concrete base	yd super	14/3	18/6
Do. in narrow widths	ft super	2/-	2/7
⅜in skirting 6in high, angle fillet at bottom splayed and turned in at top	ft run	2/4	2/7
External angles	each	6*d*	6*d*
Internal do.	each	10*d*	10*d*
Tanking or Damp Course		B.S.1097/43	B.S.1418/47
Vertical in two thicknesses	yd super	19/6	24/6
⅜in horizontal do.	yd super	13/-	18/9
Vertical in three thicknesses	yd super	26/6	33/-
1½in horizontal do.	yd super	19/-	27/6
Labour rounded external angle	per ft run	6*d*	6*d*
Do. internal angle fillet	per ft run	10*d*	11*d*
Do. double do.	per ft run	1/8	1/8
Collars to small pipes	each	3/6	4/-
Do. to large pipes	each	6/9	7/6

DRAINAGE

Excavate trench, and plank and strut to sides, consolidate bottom to fall, return, fill and ram earth after drain is laid and load and remove surplus. In ordinary ground—moderately firm. (By hand)

Per lineal yd	
1ft in depth	6/2
2 do.	10/5
3 do.	24/-
4 do.	31/-
5 do.	38/4
6 do.	57/8
7 do.	71/-
8 do.	84/-
9 do.	97/-
10 do.	110/-
11 do.	134/6
12 do	152/-

Portland cement (1 : 6) concrete bed under drain pipes and benching up on both sides—6in thick	Per yd run 4in 18in wide 8/6	6in 20in wide 10/-	9in 23in wide 12/3

SALT GLAZED SANITARY DRAIN PIPES
and lay and joint with Yarn and Cement Mortar in trench.

Quality	Quantity	Per ft run 4in	6in	9in
"Best"	2ton or more	3/2	4/9	7/10
	50 pieces and over	3/6	5/5	8/9
	under 50 pieces	3/7	5/6	9/1
"Best Tested"	2ton or more	3/11	6/1	9/7
	50 pieces and over	4/4	6/6	10/7
	under 50 pieces	4/5	6/8	11/3
"British Standard"	2ton or more	3/5	5/1	8/4
	50 pieces and over	3/10	5/9	9/4
	under 50 pieces	3/11	5/10	9/8
"British Standard Tested"	2ton or more	4/-	6/1	10/1
	50 pieces and over	4/7	7/-	11/6
	under 50 pieces	4/8	7/1	11/11
Extra for bends "Best"—Contained in 2ton lots		4/2	6/3	16/6
Extra for junction "Best"—4in on 4in—6in on 6in—9in on 9in	do.	6/6	9/9	27/-½

IRON DRAIN PIPES—

Heavy cast iron socketed and laying and jointing in molten lead—	Per ft run 4in	6in
In main runs	14/5	20/2
In branches	16/6	23/4
	each	
Extra over last for bends and extra joint	30/2	66/1
Do. on do. for junctions and extra joint	45/4	86/-
Cast-iron gulley with 10½ inlet and 4in outlet, composed of hooper and trap, and 9in extension piece and 10½in grating, and jointing all together, and jointing to drain and surrounding in concrete	183/-	—
Do. rain water, shoe with vertical inlet and inspection cover, and joint up and embed	85/9	143/6

MANHOLE SUNDRIES—		4in	6in
Salt glazed straight half-round main channels	each	6/-	8/7
Do. curved	do.	14/-	20/-
Do. three-quarter section splayed channel bends (Barrons or similar)	do.	18/-	26/6
Heavy manhole steps galvanized	do.	9/9	—
Fix only manhole covers	do.	11/6	—
4in Mica flap, brass faced, f.a.i. valves and fix with molten lead joint	do.	41/-	—

ROOFER

CORRUGATED ASBESTOS SHEETS

P.C. 8/3¾ per super yd including side and end laps and fixing to wood	167/- per square
Eaves filler pieces	2/6 ft run
Adjustable ridge	4/9 do.
Barge boards	3/4 do.
Plain roofing tiles, machine made, sand faced, 4in gauge nailed every 4th course with 1½in galvanized nails, to battens (measured separately)	265/- per square
Extra over last for top edge or abutment cutting	1/4 ft run
Do. for double course at eaves	2/5 do.
Do. for verges, undercloak, bed and point	3/9 do.
Do. Valley tiles including cutting and waste on both sides	11/6 do.
Do. Bonnet hips and do. bed and point	12/- do.
Half-round ridge and bed and point	3/6 do.
Fixing soakers	1/8 dozen

Bituminous felt roofing in two layers, laid breaking joint and bedded with hot mastic and finished with fine dry grit	13/- yd
Do. but in one layer only	9/6 super

WELSH SLATING	Per square 16"+10"	18"+10"	20"+10"
3in lap, 2 zinc nails to each slate	343/-	357/-	416/-

Additional labours	Per ft lineal 1/9	1/10	2/2
At tops, verges and abutments—straight			
Do. —raking	2/7	2/9	3/1
At hips and valleys (each side)	2/7	2/9	3/1
At eaves, double course	3/6	3/8	4/2
Do. to falls	5/3	5/4	6/3

It pays you and your clients to put in *solid fuel* central heating

Lowest running costs. The big news in central heating these days is the amazing cheapness of the solid fuel systems. For example, the average weekly running cost for a two- or three-radiator system can be as little as 9/9d! Just compare that with oil, gas and electricity —see chart on right.

Lower installation costs. Compared with oil, solid fuel systems are much cheaper to buy and install. The new solid fuel boilers are really streamlined and require very little attention. They are thermostatically controlled and finished in gleaming vitreous enamel in a range of modern colours. This is going to mean a lot to every househunter!

Excellent credit facilities. ***What's more, the entire cost of the equipment and installation can be spread over five years.***

Lowest maintenance costs. Solid fuel systems cost practically nothing to maintain. But with other fuels, skilled maintenance is necessary and this can cost from £5 to £15 per year—another 2/- to 6/- a week on the running cost.

Compare the costs. These are typical weekly costs, averaged over the year, for centrally heating a three-bedroomed house or bungalow—and hot water summer and winter. Look how much cheaper solid fuel is.

	6 or 7 radiators and hot water ▼		2 or 3 radiators and hot water ▼
COKE In independent boiler	**9/- per cwt**	**9/9d**	**15/-**
SMALL ANTHRACITE In gravity feed boiler	**12/- per cwt**	—	**14/1d**
GAS	**1/4d therm** plus, say, 2/8d a week standing charge	**16/1d**	**23/6d**
ELECTRICITY	**1d unit** (No standing charge included)	**18/2d**	**29/10d**
OIL	**1/5½d gallon**	*12/10d	*22/8d
* plus 2/- to 6/- a week maintenance cost.			

For architects. 'Central Heating for Houses', a complete, 120-page illustrated survey of all the various systems available, from the open-fire-and-back-boiler to the small-pipe system. Copies 2/6d each. Write for this booklet and for list of other technical publications to the Coal Utilisation Council, 3 Upper Belgrave Street, London, SW1.

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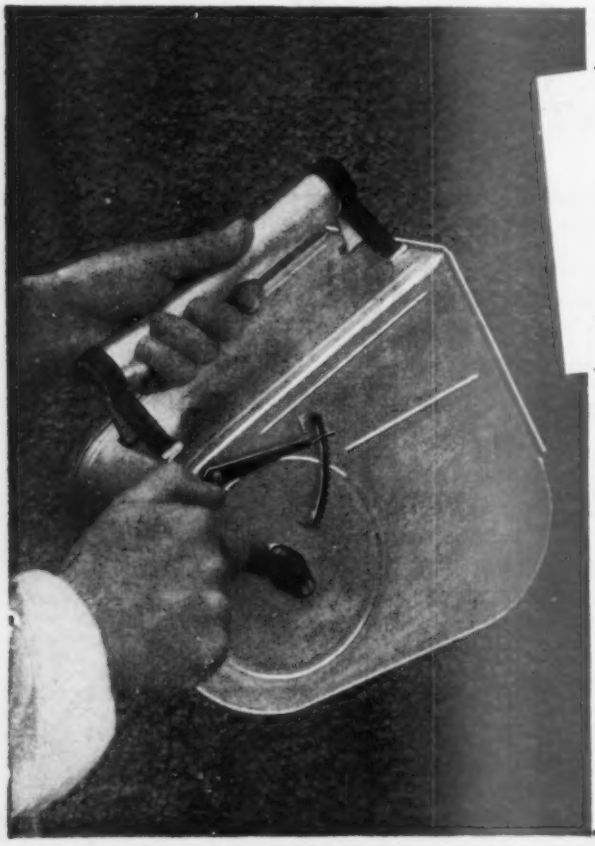

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MEASURED RATES—*continued*

FLOORS AND FLATS

Hollow tile *in situ* or pre-cast units hoisted, bedded and fixed—

	Superimposed load in lb per ft super	Span 12ft	16ft
Per yd super	50	44/9	52/9
	100	47/-	59/-
	150	53/9	67/3

20lb has been allowed to cover dead load in surface, finish.

Fair edge to slabs	9*d* per ft run
Splay cutting and waste	1/9 do.

CARPENTER AND JOINER

SOFTWOOD CARCASSING—

Labour, materials, waste nails hoisting and fixing	Plates	Joists (per ft cube)	Rafters (per ft cube)	Trusses (per ft cube)
	19/4	20/10	22/7	26/-

FLOORING—

Per square—	¾in	1in	1¼in
Rough boarding	145/-	172/-	204/-
Softwood batten flooring, straight joints, splayed headings	148/-	169/-	207/6
Do. grooved and tongued	169/6	191/6	246/-

SKIRTING—

Per ft superficial	½in.	¾in	1in
Wrot softwood moulded skirting with grounds and backings plugged	4/-	4/8	5/3

Mitres to do. . . 3*d* per sectional in.
Fitted ends . . 2*d* do.

SASHES, fanlights, casements, borrowed lights, etc.—

Per ft super—	Without bars	With bars (2ft sup. in each square)
2in softwood rebated, moulded and fixed	3/6	6/5
Add if fitted with beads	6*d*	6/5
Add if hanging on butts	3/- each	

WINDOWS, hung on lines—

Softwood cased frames, 1 in inner and outer linings, 1¼in pulley stiles, 2in sashes, oak sill . .

Overall size of frames— Per ft super	6ft	21ft	32ft	44ft
Windows as described	21/6	12/-	9/-	7/-
Add if sashes in squares, about 2ft super in each	—	1/8	2/2	2/2
Extra for hanging sashes with lines, weights and axle pulleys (each)	38/-	66/-	77/-	88/-

FINISHINGS TO OPENINGS

Per ft super—	¾in	1in	1¼in	1½in
Softwood linings, tongued at angles and tongued to frame including grounds and backings	4/8	5/3	5/10	6/4
Add if crosstongued	8*d*	8*d*	8*d*	8*d*
Softwood wrot rounded on front edge and with tongue at back window board including groove in sill and bearers	3/10	4/4	5/-	5/6
Add for ends to last notched, returned and rounded	1/1	1/2	1/3	1/4

Per ft run— Sectional area in in—	1	2	3	4	5	6
Softwood wrot and fixed in bearers, backings, grounds, fillets, and similar	4½*d*	7*d*	9½*d*	1/-	1/3	1/5
Add if in short lengths	2*d*	2*d*	2½*d*	2½*d*	3*d*	3*d*
„ if plugged to brickwork	6*d*	6*d*	6*d*	6*d*	6*d*	6*d*
„ if framed as in legs and bearers	3*d*	3*d*	4*d*	4*d*	6*d*	6*d*
„ if rebated or grooved or beaded	2*d*	2*d*	2*d*	2*d*	2*d*	2*d*
„ if chamfered or rounded edges				3*d*		
„ if moulded in architraves, capping, etc.				6*d*		

DOOR FRAMES

Per ft run— Per sectional in—	6in	8in	10in	12in	13in
Softwood, wrot, reb. & rdd. . .	2/3	2/8	3/2	3/6	3/10

DOORS—Per ft super

2in Softwood square framed and flat panels, both sides, on butts	Number of panels— 1	2	3	4	5	6
	6/-	6/10	7/5	8/-	8/4	8/10
1½in do	5/4	6/2	6/7	7/2	7/7	8/1
Add for each side moulded	3*d*	4*d*	5*d*	6*d*	7*d*	8*d*
Add B.S. flush panelled	1/6	1/6	1/6½	1/7	1/8	1/8

Per ft super—	¾in	1in	1½in	1½in
In shelves, table tops, wrot and fixed	2/5	2/9	3/4	3/9
Do. in divisions and ends framed	2/9	3/1	3/8	4/3
Add if crosstongued	6*d*	6*d*	6*d*	6*d*
Add if buttoned	6*d*	6*d*	6*d*	6*d*

SUNDRIES—Per ft run—

	In short lengths	In long lengths	Add for cups and screws
Glazing, beads mitred around and fixed with beads	6*d*	4*d*	2*d*
Rounded heel or hollow		4*d*	
Tongued and grooved angle		6*d*	
Glue blocking		6*d*	
Mitres	3*d*	per sectional in	
Fitted ends	2*d*	do.	

STAIRCASE—

	Per ft super
1¼in Softwood treads with moulded nosings 1in raisers tongued both edges and glued, blocked and bracketed on and including two fir framed carriages	6/6
Do. but in winders	8/-
1¼in crosstongued landing on framed carriages	6/3
2in moulded string	5/6
2in. do. ramped	14/-
Ends framed to newel	10/- each
Tongued heading joints	6/- do.
Ends of treads and risers housed to string	3/6 do.
Extra for curtail ends to steps, glued up and veneered riser and solid blocking	100/- do.

	1in	1¼in	1½in
Balusters about 2ft 9in long, square and framed each end . . each	2/6	3/1	3/6

3½in by 3½in square newel, framed	4/- per ft run
African mahogany moulded 3in by 2in hand-rail. (Joints below)	9/3
Do. ramped 18in girth (do.)	54/- each
Do. wreathed do. (do.)	160/- do.
Joint or framed ends	12/- do.

FIXING ONLY IRONMONGERY

	To deal	To hardboard
Barrel bolts	1/10	2/9 each
Flush bolts	5/6	4/10 do.
Sash fasteners	2/6	3/- do.
Rim locks and furniture	4/6	6/- do.
Mortice locks and do.	7/6	17/9 do.
Cupboard locks	2/9	3/5 do.
Casement fasteners	2/3	2/9 do.
Do. stays	2/3	2/9 do.
Grip handles	2/7	3/5 do.
Spring catches	2/3	2/9 do.
Cabin hooks	1/10	2/5 do.
Floor springs including oil	49/-	63/- do.
Overhead springs	14/7	20/- do.
Springhinges	14/-	19/- do.

SMITH AND FOUNDER

Basis framed steel joists and hoist and fix	80/- per cwt
Do. but in compound girders	90/- do.
Do. but in stanchions	92/- do.
Trusses	130/- do.

Additional cost per cwt over basic sections for following R.S.J.s

9in by 7in, 10in by 8in, 12in by 8in, 14in by 8in, 16in by 8in, 18in by 6in, 18in by 7in, 20in by 6½in, 20in by 7½in	8*d* per cwt
22in by 7in, 1/1 cwt, 4in by 3in	1/10 do.
5in by 3in, 5in by 2½in	2/2½ do.
6in by 3in, 24in by 7½in	2/6 do.
3in by 3in, 2/9 cwt 4¾in by 1¾in	4/- do.
3in by 1½in	4/4 do.
Cleats, brackets, packing pieces, etc., in connections, including rivets and bolts	174/- do.
Forged straps	132/- do.
Wrot iron balustrade	175/- do.

RAINWATER GOODS

Round cast-iron pipe with socketed joints caulked with red lead and tow and fixing with pipe nails and gas barrel distance pieces to plugs in brickwork (Per ft lineal)	2in	3in	4in
	4/5	4/10	6/2
Extra for shoes . . each	5/7	7/2	10/3
Do. junctions . . do.	8/5	10/9	15/7
Do. bends . . do.	6/7	8/6	10/10

RAINWATER GUTTERS Per ft. run—	4in	5in	6in
Half round CI gutters jointed in red lead and bolted and fixed on iron brackets	3/11	4/8	5/9
Ogee do. All as last	4/4	5/-	6/3
Extra for stop ends	3/2	3/10	4/-
Do. angles or outlets	5/6	7/-	8/4

MEASURED RATES—*continued*

PLUMBER

EXTERNAL—	Soakers	Flats	Flashings
4lb Milled Sheet lead per cwt	152/–	193/–	205/–

LEAD PIPES: running joints, etc.

Per ft run		½in	¾in	1in	1¼in	1½in	2in
Main	Fixed	4/6	6/2½	8/6	10/9	13/10	18/6
Service	with	4/–	5/5	7/2	8/10	11/2	14/7
Waste	hooks	2/9½	3/11	5/1	7/6	8/1	10/4
Bends	each	—	—	—	1/9	3/–	8/–
Solder joints	do.	9/8	11/8	13/5	13/8	18/2	23/8
Union and joints	do.	14/2	17/1	21/4	27/2	—	—
Stop valve and *do.*	do.	27/10	37/10	52/–	82/6	—	—
Bib valve and *do.*	do.	19/8	27/–	—	—	—	—
Ball valve and *do.*	do.	26/9	36/9	52/6	80/6	—	—
Sleeve and *do.*	do.	—	—	—	—	21/6	29/7

COPPER TUBES

	½in	¾in	1in	1¼in	1½in	2in
Tubes per ft run	3/1¾	4/–	5/1½	5/11	7/3	10/4
Couplings: straight each	3/–	3/6	5/–	6/10	11/6	15/10
Do. Elbows each	5/4	6/3	8/4	12/2	18/6	35/–
Do. Tees do.	8/7	9/11	13/3	19/–	28/7	39/9
Overflow bends	9/2	11/8	16/5	—	—	—
Stop cocks do.	22/–	31/6	50/–	77/–	97/–	153/–

BLACK TUBING (Heavy) fixed with pipe brackets	½in	¾in	1in	1¼in	1½in	2in
Tubes, per ft run	2/7	3/–	3/7	4/6	5/–	6/11
Bends and fix, each	5/–	5/11	8/–	10/6	12/2	18/6
Tees and do.	5/5	6/9	8/–	10/2	12/5	18/2
Fire bends	2/2	2/9	3/1	3/4	4/5	8/–

Coated iron (M) weight L.C.C. soil and waste fixed with nails and distance pieces and molten lead joints	2in	4in	
	5/9	8/4	ft run
Extra only for bends and joint	14/9	23/8	each
Do. junctions and joints	16/4	29/9	do.
Do. cleaning doors	16/–	17/6	do.
Domical wire guards	2/6	2/9	do.

PLASTERER			yd super
Lime and hair	¾in	Render and set	7/3
Do.	1¼in	Do. float and set	10/6
Sirapite	⅛in	Skimming coat	4/–
Do.	⅜in	Render and set	8/2
Do.	½in	Render, float and set	10/2
Portland	⅛in	Backing coat	4/10
Do.	⅜in	Plain face	8/3
Do.	½in	Floor screed	5/–
Keenes	⅛in	Skimming coat	5/3
Dubbing	⅜in	Thick or less	3/–
Metal Lathing	⅜in	mesh by 24 Gauge	7/–

6in by 6in by ¼in Earthenware Plain Glazed Tiles, in fair quantity white, and setting (on prepared screed) .. 45/–
Rounded edge. Extra over last .. .. .. 6*d* per ft run
Angles in do. .. .. 6*d* each
Cutting and fitting. Around pipes or clips .. 1/6 do.
Narrow widths. 3in to 6in wide. Add 75 per cent to plain surface.
Do. 6in to 12 in do. Add 40 per cent to plain surface.
Sundry labours per ft lineal:—
Quirk 3*d*. Arris 4*d*. Fair edge 3*d*. Rounded edge 5*d*.
Flush bead 1/9.
Mouldings—6*d* per in girth.
Jointing new plastering to old 4*d*.

POLISHING	Ft super	6" Girth Ft run
NEW WORK—		
Staining, bodying-in and French Polish	3/–	2/–
Staining and wax polishing on hardwood	1/6	1/–
OLD WORK—		
Cleaning down old work and repolish	1/4	—
Stripping, preparing and repolishing ..	3/4	2/3

INTERNAL PAINTING
With white lead base in common colours, with brushes.

	Knot stop and prime	Prime and paint once	Prime and paint twice	Add for each extra coat
ON WOOD—				
General surfaces	2/9½	5/7	8/–	2/4 yd super
Running lengths not exceeding 3in wide	4½*d*	8½*d*	1/–	3½*d* yd run
Do. 3in to 6in wide	5½*d*	11*d*	1/4	4½*d* do.
Do. 6in to 9in wide	9*d*	1/6	2/1	7½*d* do.
Do. 9in to 12in wide	11*d*	1/11	2/7	9½d do.
Sash square each side	5/5	10/3	14/11	4/4½ per do.
Do. in large squares	8/3	15/–	21/–	6/7 do.
Opening edges ..	7*d*	1/2	1/9	7*d* each
Casement frames each side	6*d*	1/–	1/4	5*d* yd run
Mullions or transoms do.	8*d*	1/5	2/–	7*d* do.

ON PLASTER	One coat	Two coats	Three coats	
Paint on surfaces	3/1	5/10	8/3	per yd super
Do. on mouldings ..	3/5	6/5	9/2	do.
Do. on enrichment ..	6/2	11/8	16/6	do.
ON STEEL				
Paint on structural steel ..	2/5	4/7	6/10	do.
Do. on roof trusses ..	2/8	5/1	7/8	do.
Do. on metal windows measured over all on both sides, divided into squares	3/5	5/9	8/7	do.
Do. divided into large squares	2/10½	5/–	6/9	do.
Do. divided into extra large squares	2/5½	4/2	5/10	do.
Do. on opening edges ..	10*d*	1/6	2/–	each
Do. on rain water pipe ..	10*d*	1/6	2/2	yd run
Do. on do. gutter	1/3	2/8	3/7	do.
Do. on small pipe	3*d*	6*d*	10*d*	do.

GLAZING (to New Work)

Polished Plate Glass ordinary substance (about ¼in), glazing quality, in the following sizes, glazed complete—Per ft super
in plates not exceeding 2ft super in each 7/2
Do. 5ft do. 8/3
Do. (unless extra sizes) 45ft do. 9/7
Do. (unless extra sizes) 100ft do. 10/2
Add extra price for glazing with screw beads or clips 5*d* per ft super.
Do. if glazing bedded in washleather or velvet 9*d* per ft run.

SHEET GLASS, glazed, complete, per ft super, in new work:
Ordinary quality clear, glazed to wood with putty:—

24oz as described			1/7½
26oz do.			1/10½
32oz do.			2/3
⅛ figured rolled, glazed to wood with putty	Group 1	Per ft super	1/10½
	Group 2	do.	2/4½
Do. in standard tints		do.	2/10½
No. 1 Fluted, glazed do. ..		do.	2/5
⅛in Reeded (narrow, broad, etc.)		do.	3/2½
Reedlyte do.		do.	2/4
Spotlyte do.		do.	2/4
⅛in Rough cast do.			2/2½
⅛in do. wired do.		do.	2/6
⅛in Georgian Rough Cast do. ..		do.	2/6½

Add for glazing all as before but to steel to similar work as above, 1¾*d* per superficial ft.

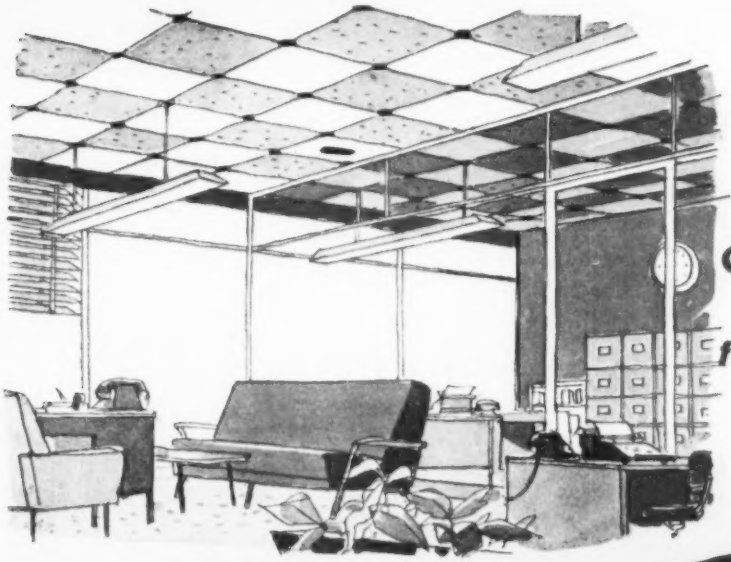
PAINTER AND DECORATOR

DISTEMPERING—In common colours, put on with brushes—
ON PREPARED SURFACE

per yd super—	1 coat (finish)	2 coats (undercoat and finish)	*Add* if required Sealing coat	Stippling
Ordinary distemper on flat surface of plaster ..	10*d*	1/6	6*d*	3*d*
Washable do. on do. of plaster	1/–	1/10	6*d*	3*d*
Add if in margins, narrow widths or panels ..	30%	30%	20%	50%
Add if on mouldings ..	50%	50%	45%	—
Add if on enrichments ..	160%	160%	115%	—

PAPERHANGING

Hanging only—	Per Piece—Lining	Pattern
On walls	7/6	9/–
On stairs	10/3	12/–
On ceilings	9/–	10/6



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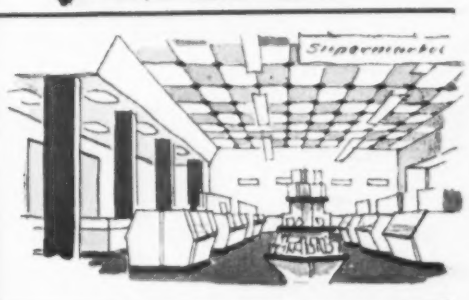
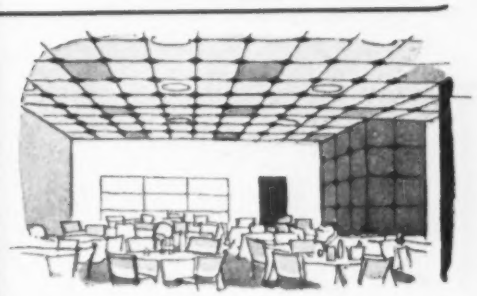
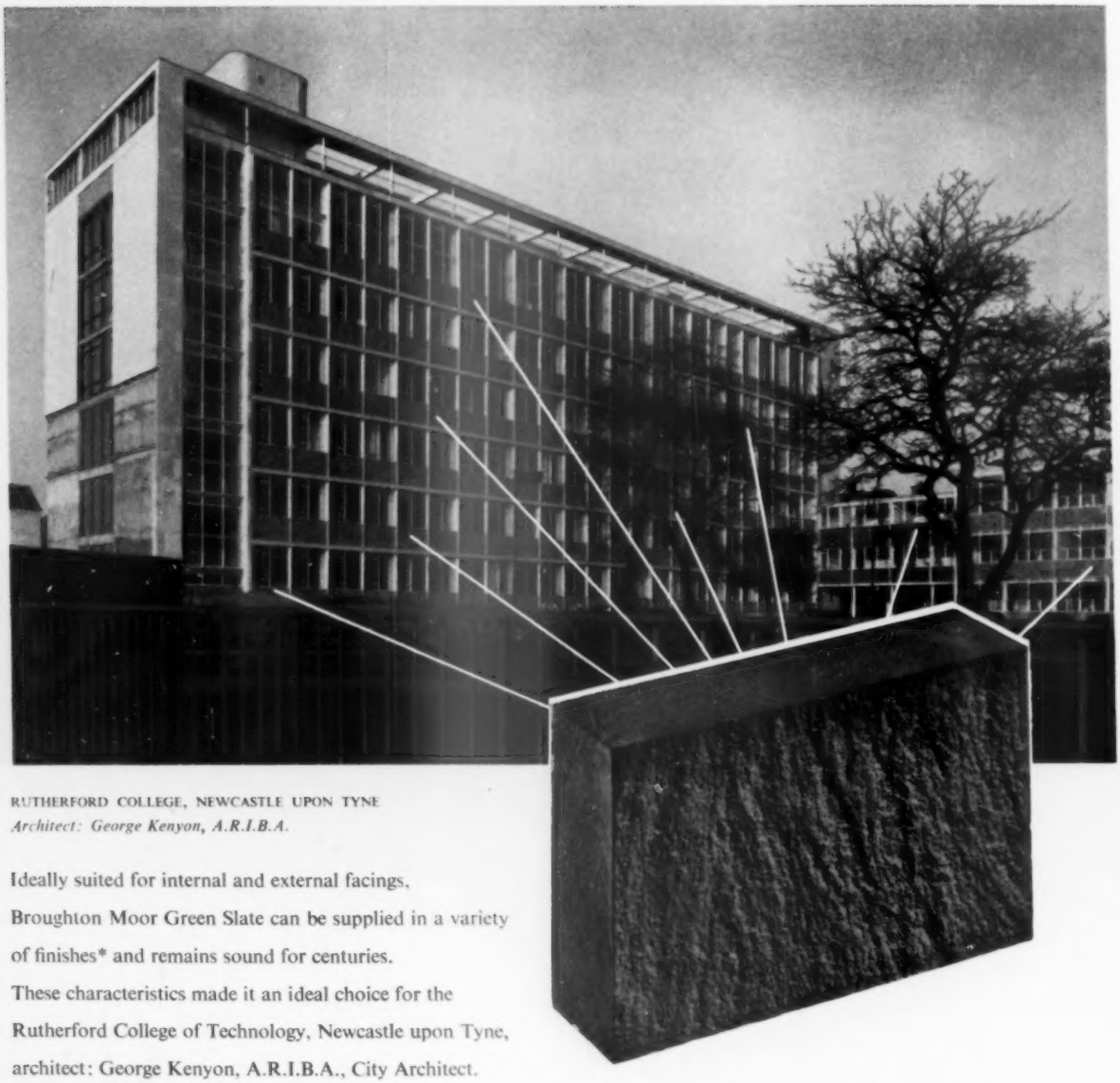




AP192
G

BROUGHTON MOOR OLIVE GREEN SLATE RIVEN FINISH



RUTHERFORD COLLEGE, NEWCASTLE UPON TYNE
Architect: George Kenyon, A.R.I.B.A.

Ideally suited for internal and external facings, Broughton Moor Green Slate can be supplied in a variety of finishes* and remains sound for centuries. These characteristics made it an ideal choice for the Rutherford College of Technology, Newcastle upon Tyne, architect: George Kenyon, A.R.I.B.A., City Architect. For this contract, Broughton Moor Olive Green naturally riven slate was used, approximately 16,000 square feet being supplied in the form of Ormcraft panels, to which the Broughton Moor Olive Green Slate was cramped and bonded. About 5,000 square feet of the same slate was fixed traditionally.

** An example of Broughton Moor Olive Green Slate showing the naturally riven finish. Finely rubbed, sanded and frame sawn finishes are also supplied and all are available in three distinct colours: Light Sea Green, Olive Green and Pale Green Barred. Technical pamphlets showing typical methods of fixing are available as follows: 1 Flooring, 2 Facing, 3 Coping, 4 Cills, 5 Riven Face Slabs*

Broughton Moor
GREEN SLATE QUARRIES LTD

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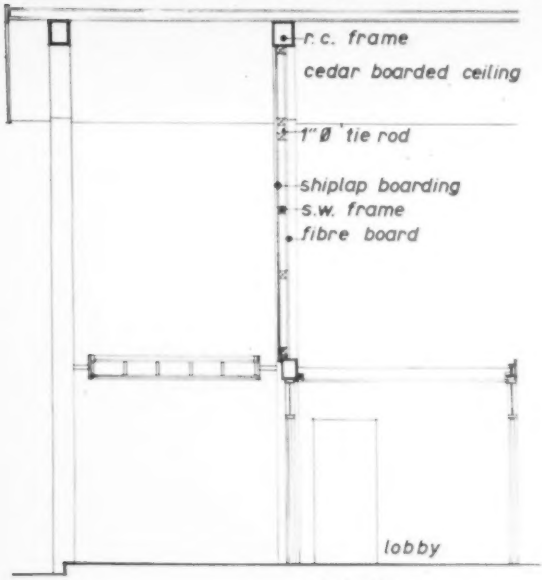
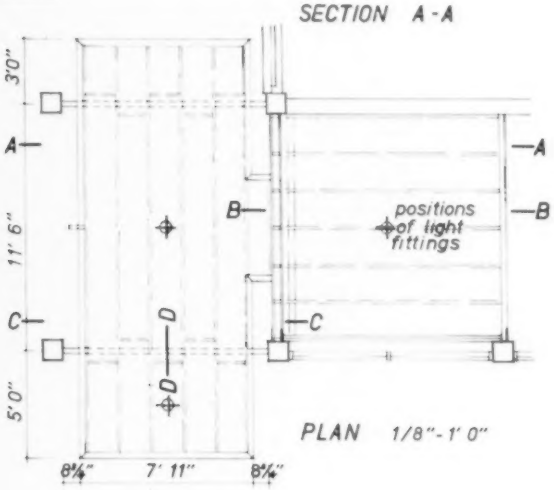
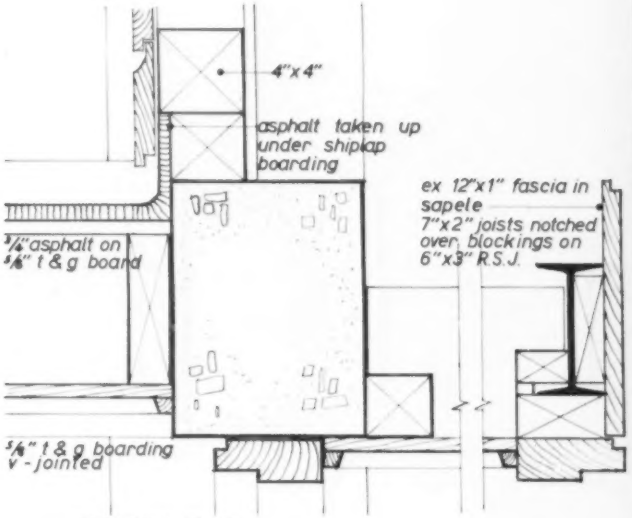


SECTION A-A

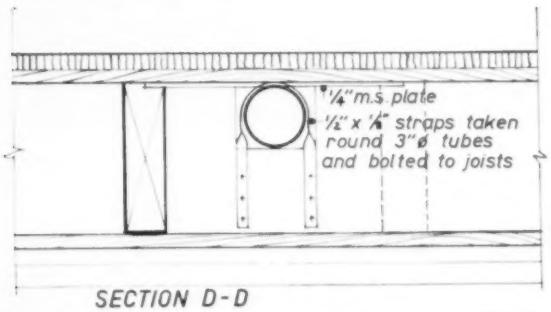
ELEVATION



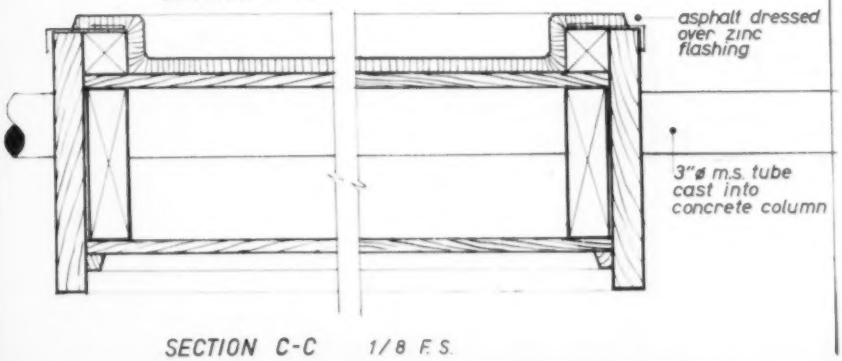
PLAN 1/8"-1'0"


4"x4"
asphalt taken up under shiplap boarding
ex 12"x1" fascia in sapele
7"x2" joists notched over blockings on 6"x3" R.S.J.
¾" asphalt on ⅝" t & g board
⅝" t & g boarding v-jointed

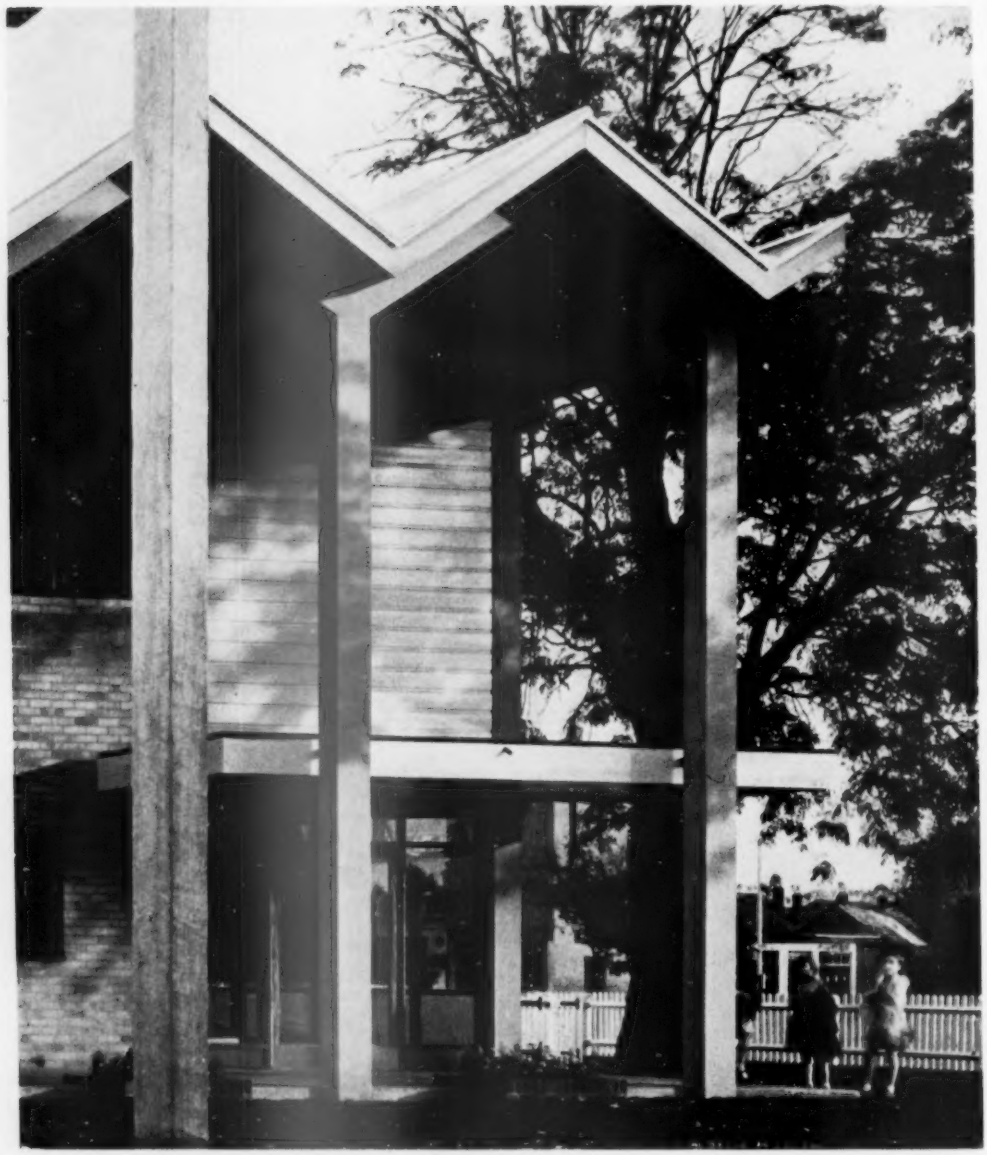
SECTION B-B



SECTION D-D



SECTION C-C 1/8 F.S.



The canopy to the entrance to this Methodist church at Mitcham was designed so that the supporting tubes could be cast into the concrete columns at an early stage and the timber work added later. It is drained by a spit pipe which discharges over a flower box. The V-jointed soffit boarding to the canopy and the lobby ceiling is painted white, as is fascia, the beading being dark grey. The concrete is painted light grey, the bricks are golden brown sand-faced flettons, the door and window frames to the church are in sapele, while those to the hall are light grey with white opening lights and vertical boarding. Architects: Edward D. Mills and Partners

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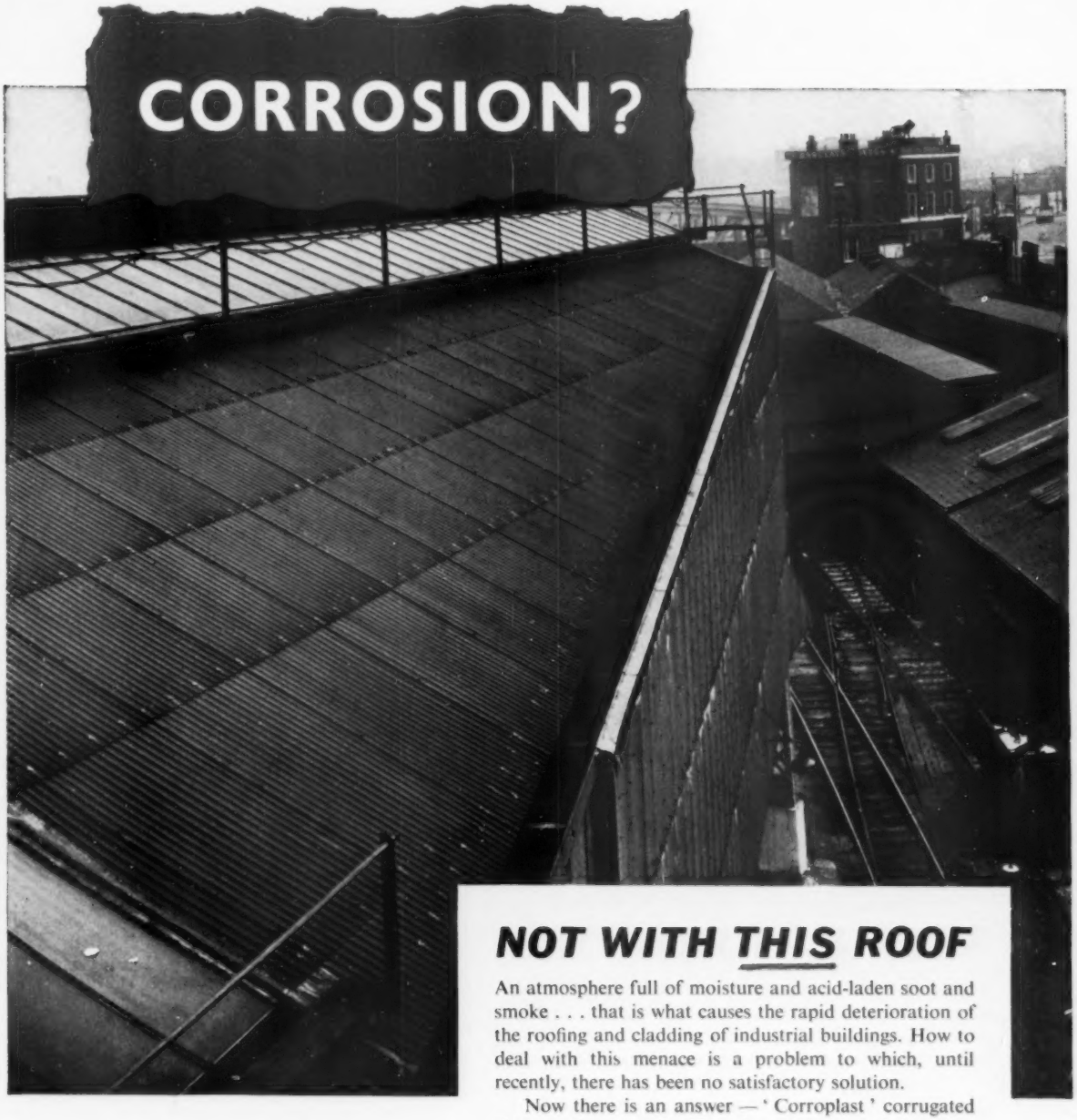

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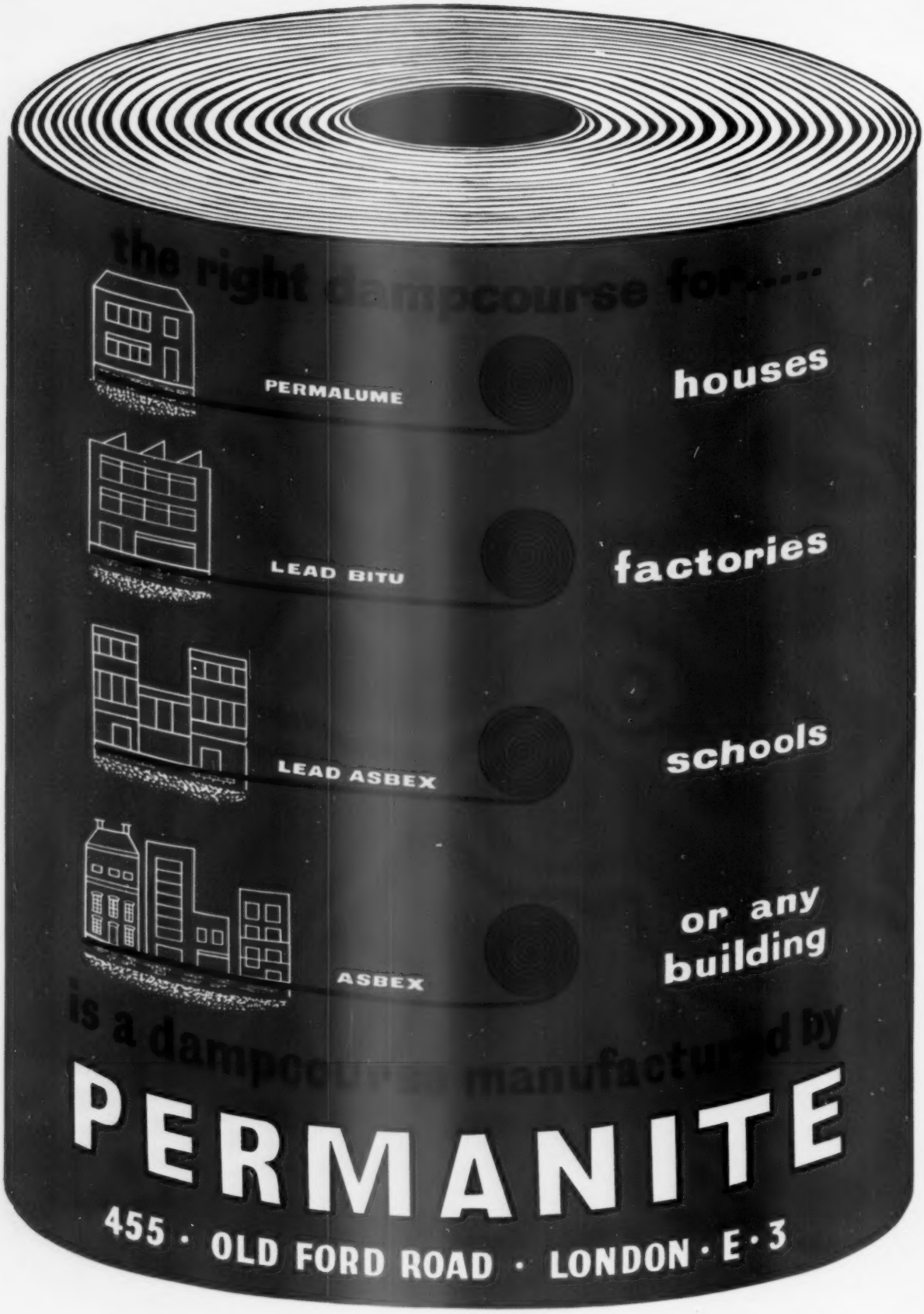
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CONTRACT • NEWS •

*Notes below give basic data of contracts open under locality and authority which are in a bold type. References indicate: (a) type of work (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading (c) deposit (d) last date of application (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

OPEN

BUILDING

ACCRINGTON B.C. (a) Erection of a new covered market consisting of buildings as follows: (1) Two reinforced concrete shell roof structures, each being 139ft by 60ft, with basement storage below; (2) Single-storey structure containing shopping arcades, food shops, public conveniences, etc., being 144ft by 43ft; (3) Ancillary buildings, service roads, etc. (b) Borough Engineer and Surveyor, Town Hall. (d) March 26, giving details of similar work carried out, especially constructed with reinforced concrete shell roofs.

* * *

BEDFORD B.C. (a) Contract 51: Erection of 76 flats in two blocks of five storeys in the Central Redevelopment area, adjacent to Priory Street. (b) Borough Engineer and Surveyor, Newnham House, Horne Lane. (c) 5gn. (e) March 11.

* * *

BEVERLEY R.D.C. (a) (1) Erection of two blocks of two-storey flats (one bedroom) at Welton, Contract 436; (2) Erection of three blocks of two-storey flats (one bedroom) at Brough, Contract 437. (b) Architect and Surveyor, 22 Lairgate, Beverley. (c) 1gn. (e) March 15.

* * *

BINGHAM B.C. (a) Erection of two shops and two flats at Bingham. Two shops and two flats at Keyworth. (b) William Saunders & Partners, 24 Castle Gate, Newark-on-Trent. (c) 3gn. (e) March 31.

* * *

BIRKENHEAD B.C. (a) Erection and completion of Noctorum High School for Girls, New Hey Road, Woodchurch estate. (b) Borough Architect, 3 Conway Street, Birkenhead. (c) 5gn. (e) March 23.

* * *

BLYTH R.C. (a) Erection of six bed-sitting room and two single-bedroom bungalows, with site works at Wenhaston. (b) Housing Manager, Council Offices, Rendham Road, Saxmundham. (c) 2gn. (e) March 11.

* * *

BRIERLEY HILL U.C. (a) Scheme "D" Erection of 34 houses at School Street, Lensnett; Scheme "G"; Erection of 22 houses and one lock-up shop, Sheffield Street, Quarry Bank. (b) Architect and Housing Director, Civic Buildings, Brierley Hill. (c) 2gn. (d) March 9.

* * *

BUCKS C.C. (a) (1) Erection of school kitchen at William Penn Secondary School, Slough; (2) Erection of two classrooms at Marsh Gibbon C. of E. School; (3) Erection of two classrooms at Bledlow Ridge Primary School; (4) Erection of a science laboratory at Mill End Secondary School, High Wycombe. Estimated costs: (1) £20,000; (2) £10,000; (3) £10,000; (4) £12,000. (b) County Architect, County Hall Offices, Aylesbury. (c) 3gn each contract. (e) March 28.

* * *

CARDIFF C.C. (a) Construction of a grammar school for boys at Fairwater. (b) City Architect, City Hall. (c) 2gn. (e) March 15.

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CARDIFF C.C. (a) Construction of a rescue training set at Caerau Lane, Ely. (b) City Architect, City Hall. (c) 2gn. (e) March 23.

* * *

CARDIGANSHIRE C.C. (a) Construction of two laboratories, four new classrooms, new stage and alterations to fabric of existing school at Llandyssul Grammar School. (b) County Architect, County Hall, Aberavon. (c) 2gn. (e) March 22.

* * *

COQUET WATER BOARD. (a) Construction of a pumphouse of mainly reinforced concrete construction with a shell roof, together with load-bearing ancillary storage rooms. (b) W. D. Edwards & Partners, 5-6 Claremont Buildings, Eldon Place, Newcastle upon Tyne. (c) 5gn. (e) March 15.

* * *

CROYDON B.C. (a) Construction of second stage of the John Ruskin sports pavilion, Oaks Road, Shirley. (b) Chief Education Officer, Katherine Street, Croydon. (c) £1. (e) March 22.

* * *

DAWLISH U.C. (a) Erection of 24 flats in three two-storey blocks at Church Street. (b) Chas. E. Ware & Son, 20 Richmond Road, Exeter. (c) 2gn. (d) Immediately.

* * *

DENTON U.C. (a) Erection of an aged persons' communal centre and warden's flat, Dark Lane estate No. 2, Forrest Road, Haughton Green. (b) Engineer and Surveyor, Town Hall. (c) 2gn. (e) March 15.

* * *

DURHAM C.C. (a) Additions and alterations, heating and L.H.W. installations, hardwood block flooring at Durham Girls' Grammar School. Erection of Peterlee Shotton Hall New County School. (b) County Architect, South Street, Durham. (d) March 9. (a) Supply of paints and painters' equipment, commencing May 1. (b) County Architect. (e) March 16.

* * *

EAST SUSSEX C.C. (a) Erection of a health service clinic at Mile Oak, Portslade. (b) County Architect, County Hall, Lewes. (e) April 12.

* * *

FLINTSHIRE C.C. (a) Erection of a four-classroom primary school at Perthy-Terfyn, Holywell. (b) County Architect, Llwynegrin, Mold. (c) 3gn. (e) March 14.

* * *

FRIMLEY AND CAMBERLEY U.D. (a) Construction of extensions to the Municipal Buildings, Camberley. (b) Engineer and Surveyor, Municipal Buildings, Camberley. (2) March 21.

* * *

GILLINGHAM B.C. (a) Rebuilding two traditional type dwellings in simplified design at Bennington Green Twydall/Beechings estate. (b) Borough Engineer Municipal Buildings. (c) 5gn. (e) March 18.

* * *

HASTINGS B.C. (a) Erection of first instalment of College of Further Education, comprising a single-storey workshop block and a three-storey main block (part of ultimate seven-storey block, for which piling and site levelling has already been carried out. (b) Borough Engineer, 37 Wellington Square, Hastings. (c) 5gn. (e) March 20.

ILFORD B.C. (a) Erection of 82 three bedroom houses between The Glade and Fulwell Avenue. Erection of an adjoining three-storey block of flats containing six bed-sitting rooms and six one-bedroom flats at Atherston Road. (b) Borough Engineer, Town Hall. (c) 3gn. (e) March 22.

* * *

LEEDS REGIONAL HOSPITAL BOARD. (a) Reorganization of the laundry at Southmoor Hospital, Hemsworth. (b) Architect to the Board, Park Parade, Harrogate. (c) 2gn. (d) March 9. (e) April 7.

* * *

LEYLAND U.C. (a) Contract 31. Erection of one block of six dwellings, Fox Lane, Wade Hall estate. (b) Engineer and Surveyor, Council Offices. (c) 2gn. (e) March 15.

* * *

LIVERPOOL C.C. (a) Construction of extensions to kitchens at Holt High School, Liverpool, 15; (2) Woodwork room, etc., at Croxteth Boys' School, 12; (3) Dining hall and kitchen, Wellesbourne Road primary school, 11. (b) City Architect and Housing Director, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. (c) 2gn. each contract. (e) March 17. (a) Construction of pumping plant at South sewage disposal works, Gateacre. (b) City Engineer, as above. (c) 2gn. (e) April 2.

* * *

LONGBENTON U.C. (a) Repairs to houses at 19-25a Lee Street, Annitsford. (b) W. M. Lockey, Council Offices, Forest Hill, Newcastle-on-Tyne. (e) March 14.

* * *

LUDLOW B.C. (a) Erection of three pairs of houses in traditional construction at Sandpits Avenue. (b) Town Clerk. Municipal Offices, Binham, Ludlow. (c) 3gn.

* * *

MANCHESTER C.C. (a) Supply and erection of one heated timber greenhouse, 75ft by 18ft at Alexandra Park. (b) Director of Parks, Town Hall. (e) March 28.

* * *

MARGATE B.C. (a) Erection of a public library at Eastgate. (b) Borough Engineer, 38 Grosvenor Place, Margate. (e) March 19.

* * *

MINEHEAD U.C. (a) Construction of bathrooms as additions to 40 houses at Lower Meadow Road, Alcombe. (b) Engineer and Surveyor, Council Offices, 37 Blenheim Road, Minehead, Somerset. (c) 2gn. (e) March 18.

* * *

MINISTRY OF WORKS. (a) Contractors wishing to be included in the Minister's approved list of building contractors for small new works in the counties of Caernarvonshire, Cardigan, Merioneth, Montgomery and Radnor, should apply to Contracts Branch, Ministry of Works, Gabalfa, Cardiff.

* * *

MORLEY B.C. (a) Contract 5: Erection of 48 houses (three blocks of four) and 18 blocks of 30 houses (15 blocks of two). (b) Borough Engineer, Town Hall. (c) 2gn. (e) March 14.

* * *

NANTWICH R.C. (a) Carrying out pile and foundation works to eight bungalows at Wistaston. (b) Engineer and Surveyor, Council Offices, Stapeley House, near Nantwich. (c) 1gn. (e) March 26.

NESTON U.D. (a) Erection of 50 dwellings on Clayhill housing site, Liverpool Road. (b) Architect, Morton Place, Pwllcrochan Avenue, Colwyn Bay, N. Wales. (e) March 16.

* * *

NEWCASTLE-ON-TYNE C.C. Erection at the Council's Byker depot of a reinforced concrete transfer loading platform approximately 75ft by 60ft, supported on columns and with garage accommodation beneath the slab. (b) City Engineer, Town Hall. (e) March 25.

* * *

NEW SARUM B.C. (a) Construction of 40 houses, 24 flats, 11 bungalows, with outbuildings, paving, drainage and all ancillary works at Bishopdown estate, Salisbury. (b) City Engineer, The Council House, Salisbury. (e) April 8.

* * *

NORTHAMPTON R.C. (a) Erection of 52 bungalows, 12 houses, three clubrooms as follows: Denton 11, Great Houghton four, Little Houghton 17, Harpole eight, Kislingbury 12, Milton ten, Rothersthorpe two. (b) Architect, 1 Cheyne Walk, Northampton. (c) 3gn. (e) April 13.

* * *

NORTH RIDING OF YORKSHIRE C.C. (a) Erection of Coatham County Modern School, Redcar (Stage 2). (b) F. Barraclough, County Hall, Northallerton. (e) March 17.

* * *

OLDHAM E.C. (a) Erection of a pair of houses at Breeze Hill Secondary School. (b) Schools Architect, Education Offices, Union Street, West. (c) 2gn. (e) March 10.

* * *

RUTLAND C.C. (a) Erection of extensions to Uppingham Secondary School, consisting of a new hall/gymnasium, two classrooms, library, art room and workshop block with ancillary accommodation. (b) County Architect and Planning Officer, County Offices, Catmore, Oakham. (c) 2gn. (e) March 28.

* * *

SALFORD C.C. (a) Extensions and adaptations to Cromwell Secondary Modern School. (b) Cruickshank & Seward, Architects, Royal London House, 1961 Deansgate, Manchester. (c) 3gn. (e) April 4.

* * *

SCARBOROUGH B.C. (a) Erection of 24 flats at Foxtons Farm, Scalby Road. (b) Borough Engineer, Town Hall. (c) 2gn. (e) March 14.

* * *

SEVENOAKS B.C. (a) Erection of three pairs of three-bedroom houses, one block of four three-bedroom houses and two blocks of four ageing persons' flats on Crouch House Lane, Edenbridge. (b) Engineer and Surveyor, Inglewood, Oak Hill Road, Sevenoaks. (c) 2gn. (e) March 29.

* * *

SOUTHAMPTON B.C. (a) Erection of a three-classroom annexe at Weston Park Infants' School. (b) Borough Architect, Civic Centre. (e) March 21.

SOUTHEND-ON-SEA B.C. (a) Erection of the central bus garage, London Road, comprising a cladded steel-framed structure, mainly single storey about 240ft by 190ft by 25ft high to ridge, including reinforced concrete foundation work, concrete floor, engineering services, decoration and adaptation of an existing building to be incorporated in the new structure. (b) Borough Architect, 30 Alexandra Street, Southend-on-Sea. (d) March 10, giving details of similar works, previously carried out and names of architects for reference. (c) £2.

* * *

STOURBRIDGE B.C. (a) Erection of 27 flatlets in a two-storey block, with incidental works in Prescot Road. (b) Borough Engineer and Surveyor, Council House. (c) 2gn. (e) April 4.

* * *

SUNDERLAND B.C. (a) Erection of the Sunderland Technical College, South Johnson Street site, comprising a six-storey main block with a three-storey East block, single-storey heavy laboratory block, two-storey lecture theatre and single-storey radioactive techniques block, with external works. (b) Borough Architect, Grange House, Stockton Road. (c) 2gn. (e) April 12.

* * *

SURREY C.C. (a) Supply and erection of a steel-framed open garage with asbestos cement sheet cladding, 70ft long by 45ft wide, at Cold Blow Depot, Banstead. (b) County Engineer, County Hall, Kingston upon Thames. (e) March 12.

* * *

ULSTER—ENNISKILLEN B.C. (a) Fixed price tenders from registered contractors for the erection of 12 houses in two blocks at Factory Road, Enniskillen, for Borough Council of Enniskillen. (b) N. J. Connor, Town Clerk, Town Clerk's Office, Town Hall, Enniskillen. (c) 5gn. (e) March 23.

* * *

ULSTER—N. IRELAND F.A. (a) Construction and completion of a new fire station at Lodge Road, Coleraine, for Northern Ireland Fire Authority. (b) Hedley B. Reid, Secretary, 43 Castle Street, Lisburn. (c) 5gn. (e) March 24.

* * *

WANDSWORTH B.C. (a) Erection of 49 flats and maisonnettes in two seven-storey blocks at Brixton Hill. (b) Town Clerk, Municipal Buildings, Wandsworth, S.W.16. (d) March 16, giving details of experience, plant and technical and supervisory staff available, together with names of two technical and financial referees. The site is at Roupell Park housing estate, Streatham.

* * *

WIDNES B.C. (a) Erection of two science laboratories and ancillary accommodation, floor area, 3,400 sq ft, in a two-storey, steel-frame building at Fairfield Secondary School for Boys. (b) Borough Architect, Brendon House, Widnes Road. (c) 2gn. (e) March 28.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

BALLYMENA, N. IRELAND. (1) Erection of a telephone exchange. (3) J. & H. E. Doherty Ltd., Bushmills Road, Coleraine, Co. Londonderry. (4) £90,000.

* * *

BLACKPOOL B.C. (1) 48 small flats and 36 small flats. (2) Mereside estate. (3) R. Fielding & Son (Builders) Ltd., Stanhope Road, Blackpool. (4) £109,300.

* * *

COLCHESTER. (1) Erection of 223 married soldiers' quarters for the War Department. (2) Army Estates, Layer Road. (3) T. J. Evers Ltd., Mew Road, Tiptree, Essex. (4) £500,000.

* * *

DEWSBURY B.C. (1) Erection of 46 dwellings and roads. (2) Batley Carr area. (3) Harlow & Milner Ltd., Wakefield. (4) £85,247.

* * *

ELSTREE, HERTS. (1) Erection of a school for 1,000 pupils, for the Haberdashers' Company. (3) Allen Fairhead & Sons Ltd., Sydney Road, Enfield. (4) £400,000.

* * *

EPSOM, SURREY. (1) Erection of a canteen and welfare block for Distillers' Co. Ltd. (2) Great Burgh. (3) Humphreys Ltd., Knightsbridge, London, S.W.7. (4) £110,000.

* * *

GATESHEAD B.C. (1) Erection of 138 traditional dwellings. (3) John Twiname Ltd., Brigham, Cumberland.

* * *

HERTS C.C. (1) Erection of an infants' school. (2) Hatfield, North Mymms. (3) G. Davies & Son (Broxbourne) Ltd., High Road, Broxbourne, Herts. (4) £34,015.

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KESTEVEN C.C. (1) Erection of an old people's home. (2) Gorse Road, Grantham. (3) C. W. & A. L. Hughes Ltd., 341 Humberstone Road, Leicester. (4) £47,640.

* * *

LEEDS C.C. (1) Two blocks of ten-storey flats. (2) Oldfield Lane, Wortley. Also two blocks at Killingbeck and one at Bramley. (3) Reema Construction Co. Ltd., Leeds and Salisbury. (4) £527,340.

* * *

LONDON, E.C. (1) Erection of a light industry building. (2) 29-35 Farringdon Road. (3) Tersons Ltd., Dollis Park, London, N.3.

* * *

LONDON, W. (1) Erection of a block of offices. (2) Old Burlington Street and Cork Street. (3) Humphreys Ltd., 119 Knightsbridge, London, S.W.7. (4) £220,000.

* * *

LONDON, W.C. (1) Erection of a block of offices. (2) John Street, Holborn. (3) William Willett Ltd., Sloane Square, London, S.W.1. (4) £100,00.

* * *

NEWCASTLE REGIONAL HOSPITALS BOARD. (1) Erection of a group neurological centre. (2) Newcastle General Hospital. (3) Crudens Ltd., of Musselburgh. (4) £382,520.

* * *

OXFORD. (1) Erection of a four-storey undergraduates' building. (2) Worcester College. (3) Dove Bros. Ltd., Cloudesley Place, London, N.1. 4) £100,000.

* * *

READING B.C. (1) Erection of the Manor Junior School. (3) Tilbury Construction Co. Ltd., Twyford, Reading. (4) £53,780.

* * *

RISCA (MON) U.C. (1) Erection of 32 houses and 28 flats. (2) Channel View site, Pontymister. (3) W. Jerman & Sons Ltd., Ebbw Street, Risca, Mon. (4) £97,733.

* * *

SWANSEA B.C. (1) Second phase of Mynyddbach Secondary School. (3) Bennett Bros. (Contractors) Ltd., Heathfield Works, 48 Carlton Terrace, Swansea. (4) £182,097.

* * *

TOTTENHAM, N. (1) Reconstruction of factory and offices for C. D. Monninger Ltd. (3) James Thomas & Sons Ltd., 341 Seven Sisters Road, Tottenham, N.15. (4) £120,000.

* * *

WEST SUSSEX C.C. (1) Erection of County Buildings. (2) Crawley. (3) Rice & Son Ltd., Three Bridges, Crawley, Sussex. (4) £262,543.

* * *

WOODLEY, BERKS. (1) Erection of a large bakery for Allied Bakeries Ltd. (2) Lodden Bridge Road. (3) Lowton Construction Co. Ltd., Lowton, Warrington.

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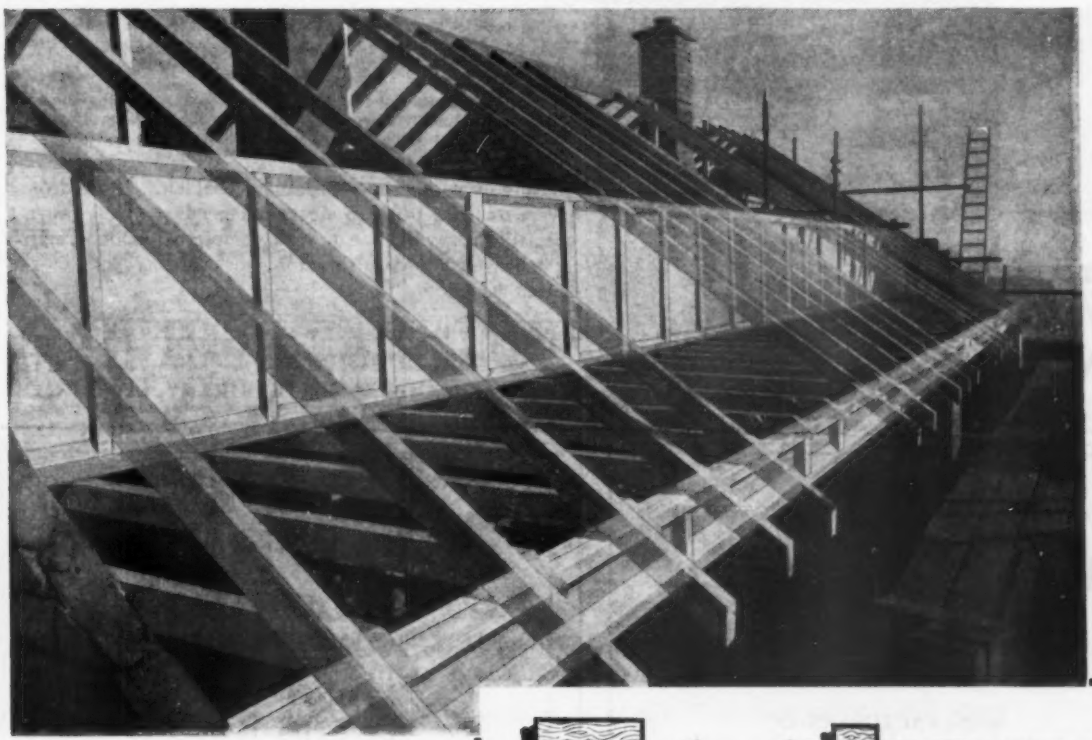

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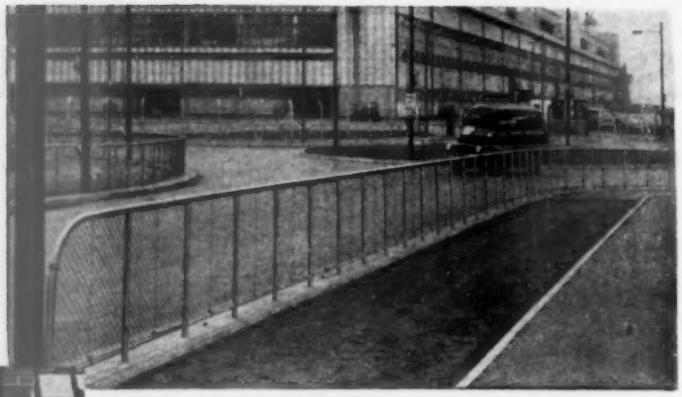

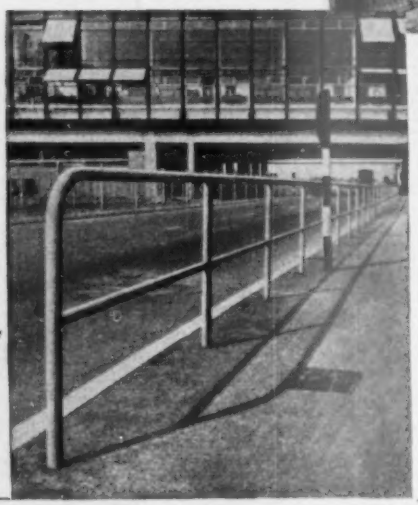

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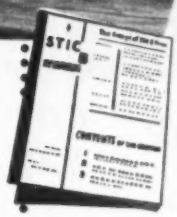

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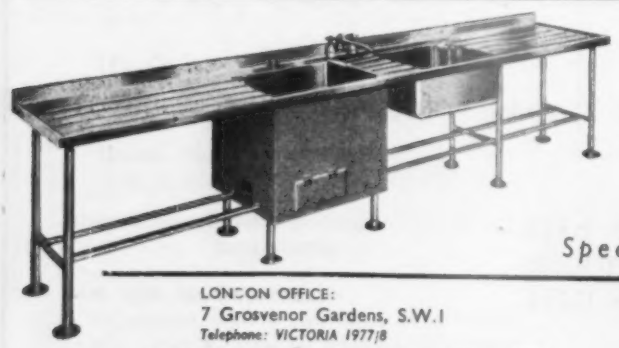

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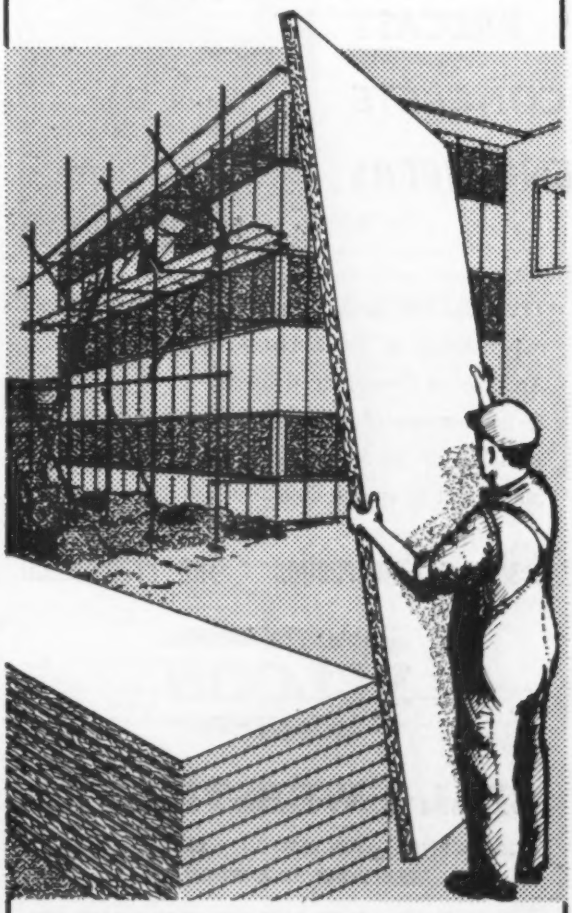

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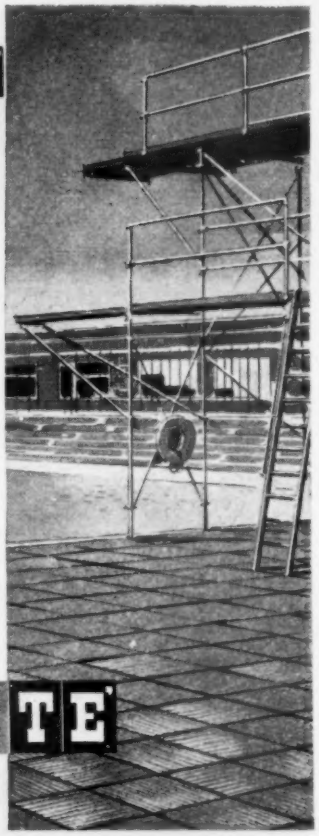

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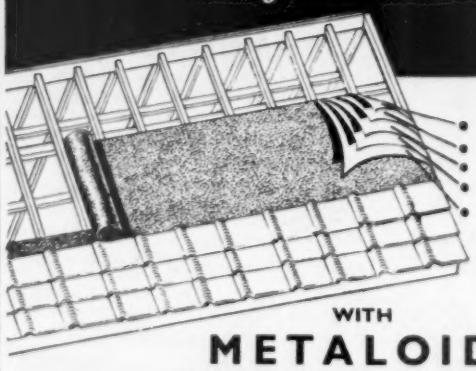

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(a) **Senior Assistants,** Salary scale £1,197/£1,260.
(b) **Architectural Assistants,** Salary scale £1,040/£1,120.

(c) **Architectural Assistants,** Salary scale £795/£1,075.

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Medical examination; superannuation; no canvassing.

Applicants stating age, qualifications and experience together with names and addresses of three referees should be lodged with County Clerk, P.O. Box No. 1, Glasgow, within 14 days of advertisement. [6201

County of Durham

APPOINTMENT OF COUNTY ARCHITECT

APPLICATIONS are invited for the post of County Architect. Candidates must be Fellows or Associates of the Royal Institute of British Architects and preference will be given to those having had experience under large public authorities.

The salary will be £3,740 a year, rising by three annual increments of £135 to a maximum of £4,145. Superannuation deductions. Medical examination. Applications, stating age, education, qualifications, experience and present appointment, with the names and addresses of two referees must be received by me not later than noon on March 28, 1960.

Personally canvassing the members of the Council is prohibited.

J. K. HOPE,
Clerk of the County Council.

Shire Hall,
Durham. [6232

Leyland Urban District Council

Engineer and Surveyor's Department

(1) **Assistant Architect** (Special Grade), £785/£1,070 p.a.

(2) **Building Clerk of Works,** Grade APT I, £610/£765 p.a.

Applications are invited for the above vacancies.

Applicants for post No. 1 should hold an appropriate architectural qualification and be experienced in the preparation of working drawings and specifications for housing and other municipal work, and must also be competent and willing to undertake quantity surveying work.

Applicants for post No. 2 should be tradesmen who have obtained the Higher National Certificate in Building and are competent to supervise house construction, and maintain site records and measurements.

Applicants should state whether they require housing accommodation.

Applications, stating full name and address, age, details of schools attended and certificates obtained, past and present posts, salaries and experience, with copies of two recent testimonials should be sent in suitably endorsed envelopes so as to reach me not later than March 19, 1960.

W. G. F. GODSELL,
Clerk to the Council.

Council Offices,
Leyland, Lancs.
February, 1960. [6234

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J. YATES,
Town Clerk.
[6241

Merioneth County Council

SENIOR PLANNING ASSISTANT

REQUIRED. Applicants should be Corporate Members of the Town Planning Institute or hold an equivalent qualification. Salary with Grades APT III and IV according to qualifications and experience. A car allowance will be paid on the "Essential User" scale for a car not exceeding 1199 c.c. Further particulars and application forms from Clerk of the County Council, County Offices, Penarlag, Dolgellau. Closing date: April 4, 1960. [6243

Prison Commission, London

ASSISTANT ARCHITECT

CANDIDATES must be over 25, registered architects with good professional experience in housing, institution and general work. Duties concern design rather than execution of work. Five-day week; some travelling. Promotion prospects; possibility of pensionable posts. Salary £805/£1,260 p.a., plus London weighting allowance between £25 and £40. Starting pay according to age. Forms from Ministry of Labour, Technical and Scientific Register (K), 26 King Street, London, S.W.1, quoting J.153/9A. Closing date 31 March, 1960. [6239

County Borough of Derby

Borough Architect's Department

(a) **Senior Assistant Architect,** APT Grade IV (£1,065/£1,220 per annum). Qualifications: A.R.I.B.A.

(b) **Senior Assistant Architect,** Special Grade (£785/£1,070 per annum). Qualifications: A.R.I.B.A.

(c) **Junior Architect,** General Division (£210/£595 per annum). Qualifications: Probationer R.I.B.A.

or

Assistant Architect, APT Grade I (£610/£765 per annum). Qualifications: Intermediate R.I.B.A.

(d) **Junior Quantity Surveyor,** General Division (£210/£595 per annum). Qualifications: Student member R.I.C.S. with previous experience in Quantity Surveyor's office.

or

Assistant Quantity Surveyor, APT Grade I (£610/£765 per annum). Qualifications: Intermediate R.I.C.S. with good experience in working up Bills of Quantities and Final Accounts, measuring on site and taking off for small works.

Commencing salary according to qualifications and experience. Permanent superannuable appointments, subject to one month's notice and to medical examination. National Conditions of Service.

Forms of application obtainable from and to be returned to the Borough Architect, The Council House, Corporation Street, Derby, not later than Monday, March 28, 1960.

G. H. EMLYN JONES,
Town Clerk.

March 4, 1960. [6249

APPOINTMENTS (cont)

City and County of Newcastle upon Tyne

City Architect's Department

THE City Architect will be pleased to receive applications for the following appointments in the Department in connection with the New Town Hall project:

Senior Assistant Architects (two vacancies), APT Division, Grade IV (£1,065/£1,220 per annum).

These posts will offer ideal opportunity for architects wishing to work on an important building involving finishes of high quality. It is anticipated that work on the site on the first three blocks of the New Town Hall will commence in April, 1960, and the whole project is estimated to cost over £2,000,000. A high standard of design ability and an appreciation of and experience in good quality building work is essential.

Application forms and full particulars may be obtained from George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18 Cloth Market, Newcastle upon Tyne, 1.

Closing date for receipt of completed applications, Monday, March 28, 1960.

JOHN ATKINSON,
Town Clerk.

Town Hall,
Newcastle upon Tyne, 1.
March 4, 1960. [6251

Bracknell Development Corporation

APPLICATIONS are invited for the post of Assistant Architect, salary range £1,065/£1,220. Applicants must be Corporate Members of the R.I.B.A. Superannuation schemes, medical examination. Housing available. Apply by March 24, 1960, giving age, education and qualifications, experience and appointments held (with dates and salaries), and names of two referees, to General Manager (A), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. [6244

TENDERS

Sedgefield Rural District Council

TENDERS FOR ERECTION OF 42 DWELLINGS ON FIVE SITES

TENDERS are invited for the erection of the above dwellings on a fixed-price basis. Applications for copies of the Bills of Quantities, Specifications and Form of Tender, should be made to the undersigned accompanied by a deposit of £2 2s, which will be returned on receipt of a bona fide tender not subsequently withdrawn and the return of all documents supplied. Copies of drawings and R.I.B.A. Conditions of Contract may be inspected at the office of the Housing Architect, Council Offices, Sedgefield, during office hours.

The Council do not bind themselves to accept the lowest or any tender.

R. P. BURTON,
Clerk of the Council.

Manor House,
Sedgefield,
Stockton-on-Tees.
March, 1960. [6235

County Borough of Brighton

FIXED-PRICE tenders are invited for:

ERECTION OF THE FIRST STAGE OF THE COLLEGE OF ARTS AND CRAFTS

Bills of Quantities and Form of Tender may be obtained from the Borough Surveyor, Engineer and Planning Officer, 26-30 King's Road, Brighton, on or after Monday, March 7, 1960, on receipt of a returnable deposit of £3 3s. Drawings may be inspected upon application at the Borough Surveyor's office. Tenders are to be delivered to the Town Clerk in the plain sealed envelope provided, not bearing any name or mark indicating the sender by noon on Tuesday, April 12, 1960.

W. O. DODD,
Town Clerk.
[6227

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ARCHITECTURAL ASSISTANTS required for busy office with interesting and varied work. Intermediate and Final R.I.B.A. standard. Salary £750/£950 p.a. Five-day week.—Apply in writing or telephone Covell & Matthews, 34 Sackville Street, London, W.1. REGent 2291. [6122

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ARCHITECTURAL ASSISTANT required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20 Bedford Square, London, W.C.1. [0916

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JOHN MORGAN (BUILDERS) LD., CARDIFF.

Architects:
SIR PERCY THOMAS & SON, CARDIFF

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